THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

MARCH, 1889.

ECTOPIC FŒTATION (ABDOMINAL) IN A BLACK-FACED EWE.

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At the request of Principal McCall, I send the following sketch of a case which, from its rather uncommon occurrence, may not be without some interest to the members of the profession :—

History.—A black-faced ewe, the property of Allan Gilmour, Esq., of Eaglesham, near Glasgow, was bought, along with a number of other ewes in October, 1887, for breeding purposes.

Leicester rams were put among the ewes in November of the same year, and removed on 1st January, 1888.

At the lambing season a number of these ewes were found to be barren ; these were retained for home use, and killed as required.

The ewe the subject of this article was the last killed, and the fattest of the lot. Nothing unusual had been noticed during life, and her condition was never suspected until she was killed and the abdominal cavity opened. Thinking the condition found therein rather peculiar and interesting, Mr. Gilmour sent the abnormality (a fœtus) to the Glasgow Veterinary College, on the 6th December last, with the following description : "The lamb which I send you was found lying on the right side, well back behind the ribs, and attached to the thin flank of the mother's abdominal cavity—in fact, resting on the lowermost skin of the belly."

When the fœtus was examined the following were revealed :—

It was a female, well developed, and covered with wool all over, except at the point of its attachment to the maternal abdominal wall. A part of the right flank of the mother was still attached

to the left lateral aspect of the fœtus. This attachment was not by any means intimate, there being no real union, but simply that which arose from the co-adaptation of the fœtal-membranes to the maternal peritoneum.

The body of the lamb was quite fresh, and showed neither signs of mummification nor putrefaction.

In point of size it did not differ from an ordinary full-time intra-uterine fœtus.

From the position which it had occupied in its mother's abdomen, it was very much twisted, the back being arched to such an extent as to form a semicircle.

The neck was turned in a spiral form from left to right, so that the nose was where the poll should have been, and *vice versa*.

Besides this spiral turn, the neck was twisted downwards and backwards, the head being carried outside the off fore limb and resting on the right flank.

Both the hind limbs were very much bent, every joint being flexed to its fullest extent.

The fore limbs were much in the same condition; the flexion of the off forearm was so extreme that the knee occupied almost the same position as the shoulder joint.

On examining the head, the lower jaw was found projecting beyond the upper to a considerable extent.

The eyelids on the near side were adherent, and had to be incised before gaining an entrance into the orbital cavity, which was empty, no trace of an eye being present. On the off side the eyelids did not adhere to the same extent; an eye was present, but very rudimentary, being composed only of the sclerotic coat and cornea.

The other parts of the head were normal.

On opening the abdominal cavity, the umbilical apparatus appeared to be the same as in any ordinary fœtus; the liver was large, the bowels dark in colour, flabby to the feel, and partly decomposed.

When the chest was opened the ribs (from the pressure to which the sides of the chest had been subjected while in the mother's abdomen) were squeezed together to such an extent as almost to occlude the thoracic cavity. The heart was (on account of this compression) much flattened laterally; the lungs were small, smooth, and felt like liver, since they never had been inflated.

The foregoing are the anatomical peculiarities of this fœtus.

On calculation, we find that it must have been in its mother's abdomen for at least not less than eleven months. Mr. Gilmour's manager suggests that it might have been there for years, but had

that been the case we should have expected mummification to have set in, of which there was not the slightest trace.

The point of greatest interest, namely, from what vessel or vessels of the mother the fœtus drew its nutriment, or what were its maternal attachments, on account of its being removed from the abdomen before our examination, we, of course, cannot state, and therefore do not feel inclined to surmise.

AN INVESTIGATION INTO THE NATURE OF THE COMMON INDIAN SKIN DISEASE.

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THE following account of a private investigation into the pathology and treatment of the familiar Indian skin disease of horses and mules may interest some readers of the VETERINARY JOURNAL :—

The symptoms of this disease, and the frequent unsatisfactory results of its treatment, are well known to the veterinary practitioner and to the military service in India.

The disease is generally termed "Khoojlee," "Eczema," "Prurigo," "Prickly Heat" (Meyrick), and appears to be identical with the disease described as "Tropical Pityriasis" by Burke in the August number of the Journal. I am of opinion that the disease is a species of Ringworm, and would suggest the technical term of Tinea Furfuracea for the affection.

Microscopic examination of one case (horse No. 27, T/1, R.A.), during the month of June, showed a fungus in the epidermal cells and hairs of the diseased parts, which were in this case the sides of the neck, head, mane, front of and below the chest, and shoulders. The symptoms were manifested in the usual way by pimples, intense itching, formation of scabs, and loss of hair, in patches varying from half an inch to two inches in diameter, and of more or less round shape.

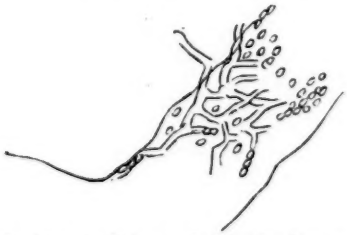
All other cases of the disease in the battery showed the same fungus. It was seen to be a fungus *extremely like* the *Tricophyton tonsurans* (the exciting cause of Ringworm), but differing slightly in its mode of growth in the skin, pathological results, and clinical aspects. The fungus was seen in the root-sheaths, hair-bulbs, and shafts, and in the epidermal cells. In the hair the mycelium of the fungus consists of long, slender hyphæ, which give off branches, and run more or less parallel to the sides of the hair, though many branches penetrate from sheath to sheath by growing across the long diameter. In the hyphæ are seen spores (*conidia*), which are set free at the breaking up of those parts of the hyphæ

which have undergone spore division. The spores are capable of forming a mycelium. Mycelia and spores are found in great numbers in the epidermis. The fungus spreads superficially, and this is the cause of the affected spots increasing in diameter when the disease is not treated. I would suggest the name of *Tricophyton furfuracea* for this fungus as a temporary one, until its

Epidermic cells invaded by masses of spores.

identity with *Tricophyton tonsurans* is positively proved. I am inclined to the opinion, expressed by several investigators, that these fungi of the various Ringworms of man and animals are one and the same, the different results being the consequence of different conditions of existence. The hairs impregnated by the fungus are brittle, and break easily. The epidermal cells, when severely attacked, lose their shape, become very irregular, and often one finds the whole cell literally converted into a mass of spores. The spores seem to destroy the entire substance of the cell, which sometimes appears to be converted into *débris*.

Pieces of the affected skin of many of the cases were placed on sterilised potatoes, agar-agar, and gelatine (the two latter from the Bacteriological Laboratory, King's College), and in two or three



Surface of a hair attacked by the fungus.

days the fungus developed. On potatoes a wrinkled compact layer of creamy, yellowish brown colour was found; on agar-agar a dirty yellow colour was produced; on gelatine (liquid in this climate) a thin creamy-coloured scum developed. In every case of the disease experimented with, the fungus was demonstrated by bacteriological and microscopical methods. In many cases of the disease, the epidermis developed on the various media well-known

atmospheric micro-organisms, such as mucor, etc.; but these varied much, while the fungus above described was always present. Inoculations with pure cultivations on the previously mentioned media always produced the same characteristic growths. The fungus was found to be aerobic, and only a small amount of moisture was necessary for its growth. It was also observed that the fungus is capable of lying dormant in the cold for many months (this was *proved* for seven months by experiment), and is then capable of developing when placed on a suitable nidus. From the results of forty-six experiments on the atmosphere of the room in which all the bacteriological investigation of this disease was carried on for over seven months, it was ascertained that only in two instances were the spores or other part of the fungus present in it. It was therefore concluded that the fungus did not migrate to any extent by means of the atmosphere.

Twenty specimens of the disease among officers' horses and ponies, and among "gharry" (vehicle) horses, at Karachi and district, were obtained, and in every case the fungus was demonstrated by microscope and cultivation. In the dust from the floor of the stables in which were two very severe cases of the disease, the fungus was obtained by cultivation on agar-agar plates and on potatoes. The same result was produced with scrapings from the inside of the collar, and in one case from the inside of the head-collar.

From Hyderabad (Sind) specimens of this common skin disease in battery F/2, R.A., were obtained. Specimens from Jacobabad of cases in the 6th Bombay Cavalry were sent to me by Major Lucas. Specimens from the 7th Bombay Cavalry at Jacobabad, and from Quetta, were obtained later on, when visiting those stations. Mr. Appleton, A.V.D., kindly forwarded specimens from Kirkee (all these specimens were obtained by scraping the affected parts). In all these the fungus was shown by double methods. It was then concluded that it had an immediate connection with the disease, and it was realised that the treatment must be *anti-parasitic*. It was thought probable that if the fungus were destroyed the disease would cease, or be considerably modified.

The treatment at first adopted was, firstly, well washing the whole region of the affected skin with soft soap and water, and thoroughly drying with *clean* cloth; secondly, the application of a watery solution of corrosive sublimate (1 to 500) to the affected spots; but it was soon found that the solution was difficult to apply, on account of the sebaceous and endorifous excretions of the skin. Consequently, the use of an ointment of biniodide of mercury with soft soap (in the proportion of 5 grains to 1 ounce) suggested itself to me. Besides the above treatment, the bridlery

and harness were disinfected by carbolic acid or corrosive sublimate solutions; the blankets, brushes, dusters, etc., were boiled. The floor of the stable was scraped (generally earthen floors in this country), and the fittings whitewashed. Particles of scurf from animals so treated failed to produce any growth when tried on various media. It was found that the diseased spots quickly disappeared, and a new crop of hair grew, though the irritation was temporarily increased by the action of the ointment, notwithstanding that great care was used in gently rubbing it with the end of the finger for a few seconds into the spot. It was also found that fresh disease appeared in the usual way on the parts between the spots so treated.

The increased irritation suggested the use of an ointment of sulphate of copper and soft soap (1 to 12), and this was applied every other day, after cleansing the skin, (alternate days, with the mercury ointment).

The outbreak of fresh spots suggested the use of the following antiseptic dressing:—

Oil of tar,	1 oz.	
,, petroleum,	4 oz.	
Sulphur,	2 oz.	
Common oil,	4 oz.	Misce.

This liniment was applied every day after the mercury or copper. It was slightly rubbed into the whole of the affected region of the skin, and therefore over and between the previous dressing. This treatment gave satisfaction, but it was noticed in some cases that a certain amount of pruritis remained. Such cases received a dose of physic and had low diet, for in them some constitutional disorder was generally traceable. It was then found that constitutional treatment assisted the local treatment. Low diet was given to all animals, and the cure of the disease was hastened.

Four cases of the disease were treated by a solution of iodine (instead of mercury); it was applied in the same way. Some other slight cases were cured by the application of the copper ointment alone (in proportion of 1 to 8, instead of 1 to 12), and it was ascertained that this ointment killed the fungus.

The thorough carrying out of the treatment given above cured all cases in from one month to six weeks. Attempts were made to produce the disease in healthy horses, by placing the pure fungus on the thinned epidemis or dermis, but all experiments failed in this direction, and it was thought probable that the fungus did not find a suitable *habitat* in the healthy skin.

I am of opinion that this disease of the skin is essentially of a

fungoid nature, and that the exciting cause is the *Tricophyton furfuracea*. It appears probable that the fungus requires a receptive state of the skin, which appears to be one of abnormal character, and is possibly produced by high feeding, poor feeding, want of exercise, accummulation of filth (as in public vehicle horses in this country), chills and other climatic influences, friction and chafing (as in axillæ and under harness), sudden changes of diet, indigestion, and any internal or external disease producing a weakened skin. It is very evident that any predisposing weakening cause operating on the skin should be removed, for it is shown by the benefit of hygenic local treatment, which tends to bring about a healthy state of the integument. Thus, good grooming is a *sine quâ non*, and regular and sufficient diet a necessity, when health is to be maintained. Even in Scabies the benefit of constitutional treatment is acknowledged. Both animal and vegetable parasites leave a certain amount of irritation of the skin, after they are apparently destroyed. Such pruritus is probably due to the foreign matter in the skin, caused by the breaking down of dead spores, cells, etc. Further investigation by inoculation will be made when opportunity offers itself, but attempts in healthy animals have hitherto failed.

On inquiry, I found that native grooms of horses, when these are affected with this disease, frequently suffer from a skin affection called Dhobie's Itch, or Burmese Itch (Chinese Ringworm, Tinea Circinata, Eczema Marginata of Hebra), which usually attacks man in the arm-pits and groin, and in other places where sweat, etc., are allowed to accumulate by uncleanly habits, and where the skin is thinnest and most liable to chafing. Deputy Surgeon-General Turnbull, Dr. Birrell, and other medical men inform me that Dhobie's Itch occurs only at certain seasons, and especially at certain stations in India. I am informed that this disease, Dhobie's Itch, does not attack the healthy skin, but requires a receptive, or more or less unhealthy state. I have been able to show to Deputy Surgeon-General Turnbull, several Army surgeons, Inspecting Veterinary-Surgeon Anderson, and other officers interested, the fungi of both Dhobie's Itch and the Indian Equine Skin Disease (*Tinea furfuracea*), and there is no doubt that these two fungi are identical in microscopical appearances. Moreover, on the artificial media at my disposal they grow identically, and I am therefore inclined to the opinion that the exciting causes of the two diseases are one and the same. This subject is still under investigation, as well as the experimenting with the fungus of Dhobie's Itch on the human body.

It might be objected by some that as Tinea Circinata is a disease of the more or less hairless parts of the human body, it is unlikely

to be caused by a fungus which attacks hairy parts of the horse in the form of *Tinea furfuracea*. The answer at present to such is the above identity of growth on the two artificial media at my disposal, and the analogous fact given by Dr. Tilbury Fox in the following words: "It (Dhobie's Itch, Indian Ringworm, Tinea Circinata) often co-exists with Tinea Tonsurans (ordinary Ringworm), and it can give rise to the latter by transmission to the scalp of its fungus-elements, or by its extension from the face or neck to hairy parts of the scalp." The disease, Dhobie's Itch, occurs in many places where there are no horses, as in infantry barracks, as also the equine disease where there is no Dhobie's Itch; but this does not preclude the possible communication from man to beast, or beast to man. Nor does the presence of one disease follow necessarily from the presence of the other, as it does not with much more contagious maladies which are communicable from beast to man. It is well known to medical men that Dhobie's Itch always attacks those parts of the body which are kept the least clean; the custom of the natives of going into the water with a certain amount of clothing on their bodies, and of not wiping those parts underneath afterwards, makes them very liable to the attack of the fungus. I am not aware that domestic animals have ever been suspected of being a possible source of the Dhobie's Itch fungus.

Dhobie's Itch, as described in Chevers's "Diseases of India," is stated to be frequent in Lower Bengal, and the clinical features of the affection given in that work apply almost equally to the equine disease. Like our disease, Dhobie's Itch has caused much contention in medical ranks. Cases have been called Eczema, Psoriasis, etc. Chevers states the following with regard to Dhobie's Itch: "Early in my career I failed entirely to cure, using sulphur and mercurial and iodurettted applications; but I repeatedly found that after resisting treatment for months, the eruption would suddenly disappear on a change of season, as from hot to cold or the reverse." I am much indebted to my friend Dr. William Palmer for the following judicious observations upon this disease: "It can be cured by any of the parasiticides, even by borax, but they must be applied intelligently, by persons who know anatomy etc. Our old friend —— used to doubt its curability, and he was neither careless nor captious. How are such different opinions to be reconciled? If the affection of the skin depends upon a spore germinating within it, then every single spore, however deep it may have embedded itself, must be destroyed before the disease can be eradicated. . . . No sooner are the multitudes of germs in the surface layers destroyed than complete relief is felt; the remedies are discontinued, and after a

month or two a few germs in the deeper layers will have multiplied, and the disease be again as bad as ever. [Has not this occurred in veterinary practice?] The sanguine doctor who promised a cure will be called hard names, the patient will lose faith in the remedy, and after years the skin will have assumed that thickened, dense character where some skill, with an unusual amount of patience and perseverance, will be required to bring about a cure. I feel very certain, however, that a cure may be effected whenever the remedy is used with knowledge and faith." Dr. Chevers continues, "At Sir Joseph Fayrer's suggestion I used goa powder effectually. I had some experience of the good effects of a lotion prescribed by Dr. Joseph Ewart, of Brighton. The formula is ℞

Hydrarg. Bichlorid, grs. x.
Spts. Terebinth, ʒ ss.
„ Rectificat. ʒ ijss. Misce."

Doctor Ewart writes, "It completely relieves the itching, which in the hot weather and rains is so troublesome as to lead to much disturbed sleep and great irritation in the daytime, especially during even moderate exercise." But he adds, "At these seasons it is necessary to keep up the daily use of the liniment, often for weeks after the disease is apparently cured."

At the Karachi Military Station Hospital, goa powder is used to treat all cases of Dhobie's Itch, and these are generally discharged cured in fourteen days. Clothes, bedding, etc., are disinfected by boiling. I am informed that great care is necessary, otherwise the cases recur; indeed, they constantly do recur!

In speaking on the subject of treatment of Dhobie's Itch with Surgeon Birrell, A.M.S., he suggested my trying goa powder on my patients. Goa powder is described in the B. P. as the pulverised dried medulla of stem and branches of the *Andira araroba*. Its active principle is chrysophanic acid. The result of my experiments is that I consider it the best and cheapest of all remedies. I have employed it in the treatment of the Equine Skin Disease, and I am unaware of any poisonous effects ever having been noticed from its use. I am informed that chrysophanic acid is coming to be looked upon by the medical profession, at home and in India, as almost a specific for Psoriasis, and I have therefore to recommend its trial for that disease in our patients; the acid is given internally. The next case of skin disease that comes to my notice shall be treated internally by chrysophanic acid, for it is possible that its specific action may be of service in other diseases than Psoriasis. Goa powder made up into a thin paste with acetic acid is the very best remedy for Tinea Furfuracea of

horses, as it is also for Dhobie's Itch of man. The severest case of Tinea Furfuracea I have seen was cured by its help within one month—of course all other antiseptic and cleanly measures being adopted. The ointment is applied to the affected spots in the same way as the mercury ointment, care being taken not to rub it in too hard or too long, otherwise the skin becomes blistered.

I respectfully beg to introduce the use of goa powder and its active principle to the veterinary profession (I have not heard of its use by us before), and especially to recommend the powder for military veterinary pharmacies, and to state that its virtues are well known to the sister profession in India.

At the end of this essay is given a short *résumé* of the various stages of the treatment now adopted, and which, if thoroughly carried out, has always effected a perfect cure within one month at the outside.

Often in the skin disease of the horse the whole of the under surface of the body, from fore legs to sheath, is affected; its spread there is generally due to the skin having received the fungus from the floor of the affected stable. This portion of the skin is liable to be overlooked, and hence the recurrence of the disease. From the result of clinical observation and experiment, as well as from the experience of "old Indians," I am of opinion that the fungus is of a stationary character, that the sources are brush, duster, bridle, harness, floor of stable, etc., and that the source is very rarely atmospheric. This, together with the "receptive state" of the skin, to a great extent explains why the disease is so slightly contagious, and also explains the fact of its particular prevalence at certain seasons and stations. The fact of the source being non-atmospheric points out the necessity for thorough disinfection of all possible sources of the disease, and of whitewashing the stable afterwards, with a view to its prevention and cure.

The fact of its particular prevalence at certain seasons and stations is an argument which might be used by some against the fungoid nature of the disease; but it should be met by the fact of the fungus requiring those conditions of existence which are found during those seasons and in those stations. These conditions are probably heat and moisture combined, but how much of heat it is difficult to say. The fact of these definite conditions being necessary is one of the strongest arguments in favour of the fungoid nature of the disease and other similar diseases of man and animals, even had the fungus of the disease not being seen or isolated. In this case *Tricophyton furfuracea* is constantly present, and the fact of the disease being particularly prevalent at certain seasons and stations is a clinical feature which bears out its fungoid nature.

It is absolutely necessary that personal supervision over the treatment be constantly exercised. It must be remembered that everything coming into contact with the affected parts must be disinfected. Men will forget to disinfect their dusters and brushes daily; the remedies will be rubbed in for too long a time, and the animal blistered through sheer carelessness. In this climate an animal left out in the sun after the applications have been put on, will become blistered. It must be remembered that the remedies are severe ones, and also that upon the systematic and thorough treatment and disinfection success depends. Animals must be secured, to prevent scratching, rubbing, and biting, until the disease has disappeared and the effects have passed away. It is extraordinary how a carbolic washing alone, repeated daily, will take away the pruritus left by the disease.

I can, unfortunately, not lay claim to the discovery of any new remedy for this malady (the use of goa powder was suggested by Dr. Birrell). I thought I had been successful in Ung. Hyd. Iod. Rub., until Inspecting Veterinary Surgeon Anderson, A.V.D., informed me that he had used it "years ago." He told me that it cured his cases also, but that it nearly killed them, for, during his absence, his native farrier violently blistered the poor animals, to the disgust of every one in the station who saw them. I have fortunately had the assistance of a reliable farrier sergeant in carrying out the cure of this disease in the horses of the battery at this station, and hence have had no results of carelessness or ignorance. Again, the antiseptic liniment is not new; Principal Veterinary Surgeon Oliphant, of India, has, I understand, used petroleum with great success. Had the fungoid nature of this disease been positively known, I think we should have seen it very rarely in military veterinary practice. I feel certain that almost any antiseptic will effect a cure, if only *properly followed up* and all *sources* destroyed; always remembering the nature of the exciting cause, as would be the case for any other more contagious disease, or one of a fatal character. I am disposed to the opinion that much of the benefit of all antiseptic dressings in skin diseases is due to their action on fungi. It is curious that nearly all remedies of even at present termed "non-parasitic" forms of skin disease are antiseptics or disinfectants, and it is very suggestive as to how far their action depends on destroying micro-organisms. I think it probable that bacteriological investigation of other skin diseases, as well as of the non-pathogenic organisms of the skin, would teach us much that is now obscure. How many of the diseases of the skin are we really satisfied with the "pathology" of? and how many do we guess at the pathology of, and as a result treat empirically?

I believe it is the opinion of most of the veterinarians in India that the skin disease is a constitutional one, an "Eczema," "Prickly Heat," "Pityriasis," and is due more or less to diet, to climate, non-hygienic conditions, renal, hepatic, or splenic disorder, or other cause. All these are, in my opinion, predisposing causes; at the same time it is possible that frequently true Eczema, Prurigo, or other forms of skin disease are present with, and do complicate the disease under consideration. I remember finding Scabies associated with the disease in a case which had a notoriety for being "incurable," previous to the anti-parasitic treatment which was then adopted. From Mr. Adams's excellent papers I see that the fungoid nature of the disease has been suggested, and he makes reference to an article in the VETERINARY JOURNAL which drew his attention again to the subject. I have not seen the article in question, and I am not aware that it has before been attempted to establish the fungoid nature of the disorder. Mr. W. S. Adams states that he failed to find any trace of fungoid growth. I can only repeat that in *every* case examined—over a hundred and fifty from different parts of the Bombay and Bengal Presidencies—I have *never* failed to find the fungus in abundance. I beg to point out that I worked with a powerful microscope, using a $\frac{1}{12}$th-inch oil immersion lens, though an ordinary $\frac{1}{8}$th-inch objective is sufficient to demonstrate the fungus, and by methods (bacteriological) probably unknown to most veterinarians, and that I have had some little experience in bacteriological microscopy. I confess that I think we are all dealing with one and the same disease, and that my experience is *nil* compared with previous writers on the subject; but fortunately, the fact of the presence of the fungus is a question of fact of which any one in a position to do so can satisfy himself. It is positive that in all cases of the disease examined the presence of the fungus cannot be denied by proper observation. I feel sure that careful observation and experiment will verify this. It is logical to deduce that all other cases of the same disease have the same fungus. I am of opinion that the 500 or 600 cases which I have seen have all been cases of fungoid disease, and I am credibly informed that these cases are like other cases of the common Equine Skin Disease seen all over India. Inspecting Veterinary Surgeon Anderson, A.V.D., tells me that the fungoid character of the disease explains its clinical features, and he is of opinion, from his long experience of the disease in different parts of India, that the partial antiseptic treatment which has generally hitherto been adopted would, if only properly carried out, give satisfactory results. He agrees with me that the disease is fungoid.

I am of opinion that the good results obtained by Mr. W. S.

Adams, A.V.D., on horses fed on green food, are due to his bringing about an unsuitable *habitat* for the fungus, "by his changing" the animals to a dry forage diet, by "good grooming," "judicious sweating," and "carbolic soap dressings." I quite agree with that careful observer in treating the disease constitutionally, but I consider the much more essential treatment to be the local treatment, and think it is probable that his local treatment of "good grooming," occasional "sweating," "careful drying," and "carbolic soap washings" have had very much to do with his good results. I consider that they should be adopted whenever possible. It is certain, however, that the disease exists in corps where the horses have been fed continuously on dry forage for many months. In British troops, where I have seen the disease, the forage diet has been 15 lbs. of dry forage and 5 lbs. of green lucerne or guinea-grass; and this large quantity of green food I never felt justified in stopping. The field battery at Karachi, for the past three years, has received 15 lbs. of dry kurbie (*Andropogon sarghun*) and 5 lbs. of green lucerne daily, except for about two months, when 5 lbs. of green guinea-grass were substituted for the lucerne; and the skin disease has occurred every hot season, and disappeared on a change of season, for the three years referred to. This year, at Karachi, the outbreak was much greater than for the two previous years at Hyderabad, Sind; and this is, perhaps, explained by the climate being damper at the former place, and therefore more suitable for the growth of the fungus. At Kirkee, last year, three horses with the skin disease were given as much green forage (guinea-grass and lucerne) as they chose to eat, in addition to their corn, no dry forage being given; and other three with the skin disease were fed on dry forage in addition to corn. No other treatment, in the shape of extra grooming, sweating, or medical treatment, etc., was adopted to any of the six. At the end of two and a half months no detectable difference for the better or worse could be observed in those fed on dry forage; those fed on green forage appeared about the same as before, also. These six animals were obstinate cases of the disease, and they had, previous to the experiment, been fed on 15 lbs. dry, and 5 lbs. green forage per diem. At that time I did not know that Mr. Adams adopted local treatment, not having read his papers, and the experiment was carried out simply to see the result of the dieting (of which I had heard). It was concluded that local and other treatment was necessary in these cases, and also that possibly the experiment had not been carried out long enough. Regarding the constitutional treatment through the kidneys, and local blistering over these organs, as described by Mr. Burke, A.V.D., I have no experience, and do not think that any benefit whatever

can be derived from blistering in that region, in the disease under consideration.

The investigation of the disease has occupied most of my leisure time for the past seven or eight months, and the expense incurred has been trifling. I trust it may illustrate the benefit our profession may derive from the sister one, and I hope that it may also possibly render some assistance in return, by suggesting a source of a disease to the human subject which has, as far as I know, not before been suspected.

Resume of Treatment.

1. Good grooming; general cleanliness.
2. Washing affected region with soft soap; dry the skin.
3. Apply goa powder ointment on alternate days, with sulphate of copper ointment, to diseased spots.
4. Apply the antiseptic liniment over affected region.
5. Brushes, dusters, blankets, harness, etc., etc., to be disinfected.
6. Stable floor and fittings to be disinfected and whitewashed, etc., etc.

THE USE AND ADMINISTRATION OF ANÆSTHETICS.

BY JOHN MOORE, M.R.C.V.S., MANCHESTER.

The editorial remarks of Dr. Fleming in the last issue of the Journal, and the valuable testimony of Mr. Raymond, of the Army Veterinary Department, induce me to contribute an article on the veterinary use and administration of anæsthetics. I do not mean to enter into the physiological action of anæsthetics, nor the fundamental processes by which such action is established, but simply to confine myself to the more practical part—the use and administration. Ever since I became connected with the profession I have noted with feelings of shame and degradation the almost total disregard of the production of anæsthesia in painful and protracted operations. The majority of our operations we cannot designate scientific successes; they are performed in cold blood, and many of them are veritable and revolting acts of cruelty and butchery. Take, for example, the excision of the metacarpal nerves in neurotomy, castration—especially by the torsion and écraseur methods—operations in Dystochia from different causes, or even the removal of a large tumour from the region of the shoulder. What man of us cannot but confess to the excruciating and unnecessary pain inflicted? I think such cases render the use of an anæsthetic imperative. Of course, there are many operations of so simple and painless a nature that anæsthesia is uncalled for; but, on the other hand, there are a great many where it is gross cruelty to

perform them without. Surely such proceedings cannot be the work of men endowed with a sense of feeling and humanity, of men of scientific training, and whose object is, or should be, the furtherance of their profession, both as a profession and in the estimation of the public.

What is the reason of this? Do we lack the means or ability? I think not. It is sad neglect. In his editorial Dr. Fleming remarks that "the chief reasons assigned for neglecting such beneficial means have been the long time required for producing anæsthesia, the large amount of the expensive drug needed for the purpose, the danger attending administration, and the time that elapsed before the patient recovered completely from the effect of the anæsthetic."

Taking this as my text, I purpose to chronicle a few facts, proved by experience: first, as regards the administration of an anæsthetic, the time necessary for producing anæsthesia, and the amount of drug used; and secondly, as regards the danger attending administration.

I. *Administration, etc.*—In heading my paper I have used the term anæsthetic, but my remarks will apply solely to chloroform, as I am fully convinced that as an anæsthetic it towers high above all others. No better is needed or can be found.

It has been held, and strictly enforced in all text-books as a rule to be followed, that a due admixture of air—set at twenty times the bulk—with chloroform is absolutely necessary. Experience, however, proves this rule to be not only absurd, but incorrect. The action of chloroform is manifested in two stages—1st, that of excitement; and 2nd, that of anæsthesia proper, during which operations are performed. Now, when a large amount of air is admitted, and this is especially demonstrable in anæsthising the animal while in a standing position, and allowing it to fall down, the excitement stage is very much prolonged and intensified; the animal is often uncontrollable, and a considerable time is required before complete anæsthesia is established. On the other hand, give less air—in fact, admit as little as possible—and the result is that the excitement stage is very short, the animal perfectly manageable, and complete anæsthesia established in two minutes, or even less. Such was the experience of Mr. Richard Roberts, late of Kendal, who during my pupilage with him used chloroform very extensively and for all major operations. Mr. Roberts at first used a nose-bag with a perforated bottom, but finding the production of anæsthesia thus very protracted, and the excitement stage unnecessarily prolonged—a thing not to be desired in the case of unbroken colts for castration—he conceived the idea of administering the drug with less air, or with as little

as possible, and this was productive of the happiest results. Mr. Roberts's experience, the experiments demonstrated by him and Prof. W. O. Williams at the National Veterinary Association, three years ago, and the admirable corroborative evidence of Dr. Fleming and Mr. Raymond, to whom all praise is due, clearly shows that the admission of a large amount of air is not only unnecessary, but that to exclude the air as much as possible is *the* method of administering chloroform. Of course, it is impossible to exclude all the air; a little is necessary to suspend the chloroform. During my college career I fought many a battle for this view. It was flatly contradicted on all sides, by my fellow-students, as being totally inconsistent with reason and the views of acknowledged authorities, and I remember at one of the weekly meetings of our college veterinary medical society it was proposed that my views on chloroform should not be entertained. By this method, too, the quantity of drug required is very small, an ounce and a half sufficing to chloroform any horse and to maintain the anæsthesia for at least a quarter of an hour. The old method was productive of great waste, and the record of instances of large and even enormous quantities of the drug used suggest to my mind a want of proficiency in the art of administration, or an adherence to the old method. (One member, in a recent publication, acknowledges to giving the horse a bath in the anæsthetic. Being the ACE, it certainly takes the trick.) By using Mr. Carlisle's muzzle (Arnold's Improved, suggested by Mr. Raymond, I believe), or, failing that, an ordinary nose-bag with a pad round the top to fit over the nose, the operation is rendered very simple. The drug is not expensive, being about 1s. 10d. per lb., and the cost of chloroforming a horse is thus about 2d. Cattle are easier anæsthised than horses, one ounce being often sufficient.

II. *Danger attending Administration.*—The apprehension of danger seems to be the main reason why anæsthetics are not in more general use. Operators are fearful of untoward results, perhaps the death of the subject. Such untoward results are more fanciful than real. By the inhalation of chloroform our large animals, horses and cattle, with the large vital capacity of their lungs, the usually healthy and strong condition of their hearts, and the strong action of their respiratory muscles, are not so readily killed as is imagined. I have had ample opportunity for observing this, and have on several occasions endeavoured, by the influence of chloroform inhaled by means of a muzzle, to destroy horses, but hitherto my endeavours have been futile. During my pupilage with Mr. Roberts, we were often requested to destroy old

favourite horses by that means, and after half or three-quarters of an hour's earnest chloroforming, we usually had to resort to pithing. Another case in point is an experimental one by myself, expressly for this paper. My subject was a mare suffering from Diseased Liver (softening) and Ulcerated Stomach (as shown by *post-mortem* examination). She had practically eaten nothing for a month or more, was very emaciated and weak, and being unable to rise, was ordered to be destroyed. I administered an ounce and a half of chloroform every quarter of an hour for an hour and a half, and finding at the end of that time that she possessed a fairly full pulse, and which was maintained throughout, I destroyed her by pithing, not, however, before she began to show signs of returning consciousness. The *post-mortem* examination showed no congestion of the lungs or bronchial irritation. The late Prof. Robertson, at the London College, I am informed, experienced the same result in an animal affected with Valvular Disease of the Heart (probably not far advanced). I am satisfied that these cases prove that untoward results, or, in other words, death in our large patients, from the inhalation of chloroform exist more in the imagination than in reality, and that we need apprehend no danger from its use. In speaking thus I do not for one moment advocate the careless use of it. We, as surgeons, should exercise every care. The object to be aimed at is the quick and easy production of a state of unconsciousness, and the maintenance of that state for an indefinite period, without taxing the different vital functions by an unnecessary amount of drug, carelessly given.

The time elapsing before consciousness is regained depends on the length of time the animal is allowed to inhale the drug, the amount, and the quality of it. In performing an operation which will require a given time it is not necessary for the animal to inhale it *all* that time, but the muzzle ought to be taken off a short period before the conclusion of the operation. Again, when an animal is put completely under the influence of the chloroform it is not necessary that it should be breathed to the same proportionate extent as at first, but only so much as will maintain the anæsthesia. This can be accomplished by undoing the noseband of the muzzle or bag, and allowing the admixture of more air.

The chloroform I use, and I can highly recommend it, is manufactured by Duncan, Flockhart, and Co., Edinburgh (from methylated alcohol).

In conclusion, I earnestly urge members of the profession to become possessed of a Carlisle's muzzle or an ordinary nose-bag, and give to chloroform a trial, if they have not already done

so; and I feel convinced that it will speak for itself, and with a single trial a more extended and general use will follow. No preparation is necessary beyond keeping the animal without food and water the night previous, as is usually done for all operations, and the administration becomes so easy, and is so devoid of danger, that operators can perform it without need of an assistant.

REMARKS ON FIRING.

BY T. FLINTOFF, V.S., 5TH DRAGOON GUARDS.

THE ordinary methods of treating badly sprained ligaments and tendons in race-horses, hunters, and horses used for fast work are so very unsatisfactory and ineffectual, that I venture to suggest we should, so far as opportunities offer, try the puncture firing on badly sprained and partially ruptured tendons and ligamentous structures occurring below the knee and hock joints.

Recently I have adopted, in a limited number of cases, this system of treatment, and so far as I can at present judge, with far better results than by the ordinary methods of transverse and feather firing. A fine-pointed iron is preferable in performing this operation, and I endeavour, as far as it is possible to calculate, to allow the iron to pass through the skin, but nothing more, with the immediate result that a certain amount of hæmorrhage, as well as a slight discharge of synovia from the lubricating surface of the sheath of the tendon, takes place from most of the impressions made by the hot iron (that is, when firing over the course of the back tendon only). Many of the readers of this article will doubtless argue that to fire a structure like the perforans tendon in this way will have the effect of destroying the elasticity of the tendon, by causing adhesion of it and its sheath to the skin covering it, which to a great extent I suppose really occurs; but my own idea is opposed to this as view, I think the new adhesions which are likely to take place between the tendon and its sheath with the skin are a source of strength, although probably they do limit in extent the gliding movement of the tendon in its sheath; but having probably numerous small attachments to the sheath and common integument, which is also thickened and strengthened by the firing, the tendon is less in danger of being sprained a second time than it would be by any other system of treatment that does not cause these new attachments to be formed. The effect of this mode of firing for sprain of the suspensory and check ligaments, and severe sprains of the capsular and other ligaments in connec-

tion with the fetlock joints, must of necessity be more effective, on account of its severity, than the other methods of firing, and I would strongly advocate its more general practice than is at present observed. I think it is always necessary to apply a blister of full strength over the newly fired surface, as is generally done after the operation; and the limb or limbs should be blistered over the parts affected twice afterwards, at as short intervals as possible, with a blister twice the ordinary strength, and applied for at least three-quarters of an hour each time. I have never known a blemish to result from a blister of this strength on the lower part of the limbs, provided care has been taken not to allow the patient to rub or interfere with the parts in any way.

DO BOVINES PERSPIRE?

BY H. GRAY, M.R.C.V.S., STRATFORD.

In Mr. Brett's communication, contained in the last issue of the Journal, criticising Mr. Thomas's pathology of parturient apoplexy, he asks the question, "Can a cow sweat? and has Mr. Thomas ever met with sudoriparous glands in the cow's skin?"

I can assure Mr. Brett that not only do bovines perspire, but they have sudoriparous glands in the skin. Perspiration is occasionally seen in cases of Parturient Apoplexy and in other diseases of bovines; it is also seen in healthy cattle, when they are packed together in close-covered yards in winter, when they are being fattened, and farmers look upon it as a favourable sign that they are doing well.

BLACK-LEG IN CATTLE ABOVE TWO YEARS OF AGE.

BY THE SAME.

It is a prevailing idea among stock-owners and the members of the profession that Black-leg never attacks cattle above the age of two years. Authorities seem to agree that it does not attack animals above this age.

Professor Brown, on page 22 of his "Notes of Lectures," etc., says that it "occurs in young cattle from a few weeks to a year old, and rarely up to two years." Professor Williams, on page 304 of his work on "Veterinary Medicine" (fourth edition), states that "it occurs usually in young animals under eighteen months or two years." In a letter to me on the subject, in January, 1887, the late Professor Robertson said that he could

not remember ever encountering a case in cattle above two years of age.

During the winter of 1886-1887 Black-leg seemed to rage as an epizöotic, scarcely leaving a farm untouched in some districts, attacking calves that were in a poor condition equally with the thriving ones. One farmer lost six head of cattle from this disease within three weeks. One was a calf, ten weeks old; four were yearlings; and the other was an apparently healthy cow, aged three years and eight months. It had only calved its second calf a week previous to being affected. The left hind leg was enlarged tremendously. It died on the third day. A few weeks after this case I witnessed the complaint in a three-year-old bullock; the crepitating swelling extended along the back and left quarter as far as the stifle. There was tympanitis. It died within twenty-four hours after being noticed amiss. The same winter a case occurred in the practice of Mr. J. C. Green, of Alfreton; the subject was a five-year-old cow. Both hind legs were badly affected, death resulting in a few days.

ANTHRAX IN A HORSE.

BY T. MARRIOTT, M.R.C.V.S., A.V.D., SIALKOTE, INDIA.

TROOP-HORSE B. 59, 2nd Dragoon Guards.—Fever, Anthrax. Admitted to hospital September 7th, at 6.30 a.m., exhibiting the following symptoms: temperature, 104°; pulse, 68, and firm; respirations, 16; membranes yellow, but quite free from petechial spots; submaxillary lymphatic glands tumefied, and slight swelling around the larynx. Microscopical examination of the blood failed to reveal the presence of bacterial rods or spores. During the day the temperature rose to 107°, pulse to 70, and respirations to 20. Swelling gradually increasing, and extending forwards to the sternum; a faint "roar" accompanies each expiration. Membranes still free from claret-coloured spots; no discharge from the nostrils, and neither rods nor spores visible in the blood.

September 8th.—Temperature, 105°; pulse 60, and less tone; respirations, 18. Profuse citron-coloured discharge from the nostrils, swelling extending towards the chin, somewhat less around the larynx. A few rods and spores visible in the blood.

3 p.m.—Temperature, 106·4°. The temperature began to decrease gradually, and the pulse to increase in frequency.

7 p.m.—Auscultation reveals the presence of pleuritic effusion; respirations increased and sonorous.

11 p.m.—Patient appears uneasy; lies down for a few minutes, then gets up again. This uneasiness passed off in about half an hour.

September 9th, 4 a.m.—Temperature, 103° ; pulseless ; respirations 20, shallow and laboured, owing to excessive pleuritic effusion ; swelling extending up the side of the face.

10 a.m.—Temperature, 102·8°. Sounds of the heart 96, and indistinct ; respirations, 20 ; profuse discharge of citron-coloured serum from the nostrils, mixed with blood. Extremities cold.

12 noon.—Died.

Post-mortem appearances.—An extensive deposit of firmly

coagulated straw-coloured lymph from the chin to the sternum. Thoracic cavity and pericardial sac contained a quantity of reddish-yellow serum ; lungs œdematous ; bronchial tubes partially filled with frothy citron-coloured mucus, intermixed with blood. Peritoneal cavity contained a small quantity of reddish-yellow serum. Innumerable claret-coloured spots beneath the parietal peritoneum, varying in size from a pin's head to a grain of gram. Rods and spores of the *Bacillus anthracis* found in the blood, serum, mucus, splenic pulp, and petechial spots.

The accompanying photograph was taken two hours before death.

ENLARGED SPLEEN.

BY W. A. CLIFFORD, M.R.C.V.S., STAPLECROSS.

As in the last issue of the VETERINARY JOURNAL I noticed that Mr. Macgillivray chronicles the event of having had a case of an enlargement of the spleen to the extent of 23 lbs., which he considers to be the largest ever found in the horse, I forward an account of a case that came under my observation last summer, in which the spleen weighed 45¾ lbs.

The subject was a grey gelding, the property of Mr. A. Cheesman, of Sandhurst, Kent, who sought my advice regarding a long-standing case of Melanosis of the tail, the tumour having become very large, and, through friction, had ulcerated, and was discharging at intervals a considerable amount of blood, accompanied by a very offensive smell. As the horse was old and the owner would not consent to have the tail amputated, the animal was destroyed. On opening him, I was sent for, the foreman stating he had found a large black object, and would like to know what it was. The object proved to be the spleen enormously enlarged, but still retaining its usual position and sickle shape. It was covered with growths varying in size from that of a walnut to a large egg, some being distinctly circumscribed and others completely encapsuled. On cutting into them they were found to contain granules of black-coloured pigment, some being of softer constituents than others, and probably being of secondary formation. The spleen pulp, instead of containing the usual reddish matter, was of intense blackness. The liver, lungs, and subcutaneous tissues also contained tumours varying in size, which had probably been disseminated by the blood-vessels. The bronchial lymphatics were likewise largely invaded, and even the brain and its meninges contained several black tumours about the size of peas. An interesting fact in this case is that, when I saw the horse, he looked in perfect health, and the carter, who had attended him for years, stated that he never had a day's illness since he looked after him, although at times he was a little sluggish in his work.

Editorial.

THE EXTINCTION OF CONTAGIOUS PLEURO-PNEUMONIA.

THERE are signs that the Government will soon be compelled to take more energetic action than it has done heretofore, in getting rid of that insidious bovine scourge, Contagious Pleuro-pneumonia, and that its extinction will become, not a local, but an Imperial matter. It has long been evident that, unless this is recognised and acted upon, the disease will probably never be got rid of. Though it is now confined to a few centres, yet, for want of general and energetic measures throughout the United Kingdom, it defies eradication, and is ever ready to extend itself far and wide when local authorities are indifferent or stupid. In one county these may be most zealous and thoroughgoing in their efforts to stamp out the contagion and to keep it beyond their borders, but in the adjoining ones they may be just as careless or perfunctory; consequently, the energetic and enlightened county finds all its vigilance and labour, and perhaps heavy expenses in addition, of no avail in maintaining a clean bill of health, and so loses heart. There can scarcely be a doubt, then, that carefully devised and rigidly enforced measures should be a matter for the Central Authority in London to deal with, and that compensation for losses incurred by individuals in getting rid of what is, after all, a national misfortune, and the extinction of which will prove a national benefit, should be the affair of the nation. Localised as the scourge now is in only a few places, the cost attending such an effort to have done with it altogether ought not to be a very serious consideration. The absence of such compensation has probably had a good deal to do with the continuance of the disease in the country for so many years, when it ought to have been unseen and unfelt long ago. Though the system of national compensation for the stamping out of such diseases is liable to abuse, yet in view of the greater evils which accompany the present disjointed and half-hearted attempts to grapple with such an enemy, there appears to be no other course open.

It is to be feared that Contagious Pleuro-pneumonia is not the only malady of this class which will demand the active interposition of Government in the way proposed, Tuberculosis being a far more serious calamity; while Swine Plague appears to be altogether beyond the understanding and control of Local Governments, and is a veritable depopulator of piggeries.

THE PTOMAINE OF RABIES.

PROFESSOR VASILY K. ANREP, of St. Petersburg, says that he has succeeded in isolating from the brain and medulla oblongata of rabbits suffering from a violent form of Rabies, a ptomaine possessing extremely poisonous properties. The ptomaine was obtained by applying Brieger's methods, and is a distinct crystallisable body with a constant chemical formula; its platinum salt contains more than 30 per cent. of the metal. One hundred and twenty grains

yielded about 0.065 gramme of the ptomaine. When injected under the skin (in rabbits) in minute quantities, it gave rise to the ordinary symptoms observed in the earlier stages of violent Hydrophobia, while in larger doses (½ milligramme or more) it caused all the phenomena occurring in the later periods of the disease, such as extreme restlessness, a rapid rise of the temperature to 40° C., which was of short duration, acceleration of the cardiac action, difficult breathing, decrease in tonicity of the pneumogastric nerves, and finally, collapse, convulsions, and death. Excision of one kidney accelerated the fatal result. A gradual habituation of the animal with small quantities of the ptomaine produced a certain degree of immunity.

NATURAL IMMUNITY FROM SHEEP-POX OF BRETON SHEEP.

PROFESSOR CHAUVEAU long ago demonstrated the fact that Algerian sheep were proof against Anthrax inoculation, and now Professor Nocard, Director of the Alfort Veterinary School, makes the same claim for the Breton sheep with respect to Sheep-pox. These animals are of small size and have black wool. Nocard inoculated ten of them with sheep-pox virus, which was introduced beneath the skin and into the trachea, but they remained unaffected, not the slightest pustule appearing. At the same time a number of Southdown sheep were inoculated, and all had subsequently the characteristic eruption. Variola ovina is not known in Brittany, and therefore the sheep could not have been previously affected with the disease.

THE PREVENTION OF EPIZOÖTIC ABORTION.

PROFESSOR NOCARD, of the Alfort Veterinary School, who has made the study of epizoötic abortion in cattle a specialty, formulates the following measures for its prevention:—

(*a*) Every week the cowshed floor should be thoroughly cleansed (if unpaved, the soil should be scraped), and sprinkled with a solution of sulphate of copper, forty grammes to the litre of water.

(*b*) The individual treatment of the cows is more complex, and should consist of:—

1. Vigorous vaginal injections, with a horse enema syringe, of the following fluid, which ought to be tepid.

Distilled or rain water	20 litres
Glycerine Alcohol at 36°	of each 50 grammes
Bichloride of mercury	5 grammes

Dissolve the mercury in the alcohol and glycerine, mix them thoroughly with the water, and keep the fluid in a wooden vessel, away from animals and children.

2. Every morning, when cleaning the cows, with a sponge dipped in the fluid, carefully dress the vulva, anus, and anterior surface of the tail of all of them.

3. When a cow aborts, she should be delivered at once by hand, and the fœtus and its envelopes immersed in boiling water or destroyed by fire. The uterine cavity should then be irrigated with eight or ten litres of the above fluid, by means of a long piece of india-rubber tubing passed into the organ by the hand.

The intra-vaginal or intra-uterine injection always causes, especially in young cows, apparently violent expulsive efforts, but these, in reality, do no harm.

As for the cows in which the contagium has already reached the interior of

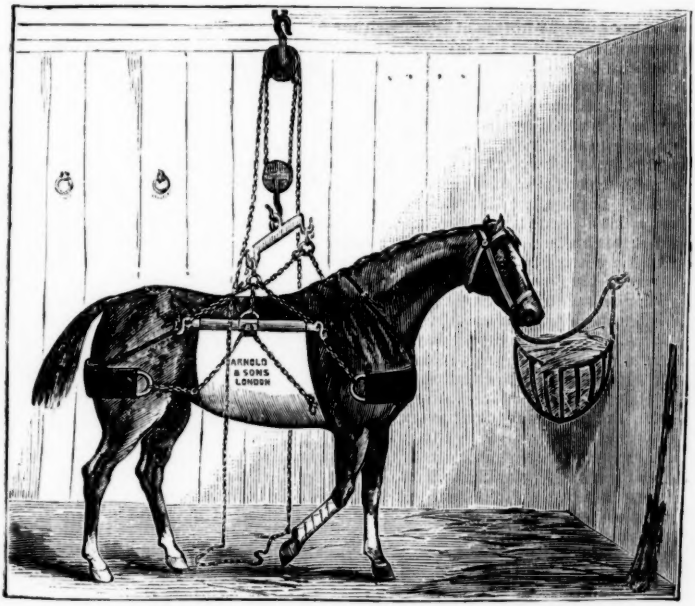
the uterus, nothing can be done. The treatment does not produce any good effects until the second year. In the first year there are always some abortions, though they are less numerous.

Nocard has obtained the best results from the employment of this method, and he is of opinion that a single vaginal injection, given at the commencement of the treatment, will establish asepsis, but only when the daily sponging of the vulva, anus, and tail is strictly carried out.

IMPROVED HORSE SLINGS.

EVERY one who has taken notice of a horse hung up in an old-fashioned sling, must have felt that if the poor brute could be put into a more comfortable position he would have a better chance of recovery.

In a new sling which Messrs. Arnold and Sons has manufactured in accordance with my ideas, many of the old defects are entirely done away with.



The chain block and tackle is, of course, the *sine quâ non* in the arrangement, as it enables two men not only to manage the heaviest horse, but to raise him off the ground. The cross-bar prevents crushing the animal, and the side-bars distribute the bearing. The webbing is reversible; by this arrangement it is immaterial which end is in front, a consideration in the hurry of the moment.

Both breeching and breast collar are attached by means of hooks and

chains to the ends of the side-bars. Hooks are more readily adjusted than straps; they do not become unsafe by the perspiration rotting and sticking them, or the tongue of the buckle tearing out, as in the straps. And the strain is directed straight to the cross-bar.

Thus, when the horse lets his legs go from under him and sinks into the slings, he is not cut into, as in the old slings, but the weight is distributed, most of it being divided between the webbing and the breeching. The webbing cants to an angle which fits the contour of the abdomen, and the breeching, kept up by the straps which go from it to the cross-bar, prevents the animal slipping out backwards.

All the ironwork is galvanised, and therefore does not rust, and all the hooks have rings in their noses to prevent them becoming unfastened.

J. H. Wilson, M.R.C.V.S., Newbury.

RESULTS OF OPERATION FOR ROARING.

Operation for the cure of Roaring having now been practised upon a number of Army horses at Woolwich for a considerable time, it will doubtless prove interesting to the profession to have a report upon the results, so far as they can be safely dealt with at present. The first batch of horses operated on consisted of seven belonging to the 5th Lancers, then at Aldershot. They were of various ages, and sound in their limbs; but they all "roared," and were so much distressed in their breathing, on exertion, that they were pronounced unfit for further military service by Veterinary Surgeon Savage, and were consequently entered for sale. After undergoing operation at Woolwich, and the external wound having closed, they joined their regiment at Shorncliffe. There they had walking and trotting exercise for some time, and were finally tested as to their condition by being subjected to a severe two-miles gallop, in the presence of Veterinary Surgeons Savage and Longhurst. Only one horse made a slight "thick-winded" noise, but was in no way distressed; they were all pronounced fit for duty, and have been working in the ranks ever since. A horse belonging to the Royal Artillery, an extreme case of Roaring, operated upon rather earlier, and another of the Army Service Corps, also a bad case, have been for some time at work. One officer's charger, useless before operation, is now ridden every day, and makes no noise. All the other cases operated upon since these were taken in hand, are doing well, but a sufficient time has not yet elapsed to give a decided opinion as to the permanency of the cure in them. In another month this will be possible.

Up to the present time, nearly one hundred horses have been subjected to operation at Woolwich, and, as Veterinary Surgeon Lees has operated on nineteen in Ireland, the number is becoming considerable. There are many more to be done within a few months. No mishap of any kind has occurred, and the cases recently subjected to operation bid fair to be successful in result.

It may be noted that the horses operated upon have not been selected cases; all were so badly affected as to be unfit for military service, and age has made no difference. So long as their legs and feet were good, they were considered worth the trial of a "cure."

In the case of the 5th Lancers horses, the precaution was taken to have the veterinary officer who knew all about them, before and after the operation, examine them, and to have his opinion endorsed by another veterinary officer, the final test imposed upon the animals being a severe one.

The course adopted will, it must be admitted, compare favourably with that pursued by Mr. Clarke, of Redhill, who operated upon two horses, presum-

ably roarers, killed them possibly when he imagined he had cured them (the Irishman kills his pig to cure it), to discover whether they were really cured, thinks the story good enough for the Marines, tells it to them (*vide Naval and Military Gazette* for August, 1888), and then begins abusing the operation as practised on Army horses, as well as its introducer, in a manner which should entitle him to the Freedom of Billingsgate and the admiration of its refined denizens. Surely his own profession has claims upon him; the veterinary profession has not. We need medical men of quite another calibre to assist us, if assistance be required.

R.C.V.S. EXAMINATIONS.

We are requested to state that Mr. G. Jarrat, of the Dick Veterinary College, passed with great credit in class A, at last December's examinations.

THE FITZWYGRAM PRIZES.

We have to announce that Lieutenant-General Sir F. Fitzwygram, Bart., offers the same prizes to veterinary students as in previous years, and that the conditions of competition will be the same as those of last year.

THE VALUE OF DATES.

In support of the statements made in the "Vindication," in the last number of the Journal (p. 112), and in order still further to refute the mendacious and calumnious assertions made by Mr. Dollar (J. A. W.), with regard to operation for Roaring, and the unfounded charge made by Mr. Jones (of Leicester), the following paragraph is extracted from the Annual Report and Statistical Returns of the Army Veterinary Department for 1887 (p. 7): "For the morbid condition which causes Roaring, 61 horses were cast (5·27 per cent.), more than 20 less than in 1886. Attempts are now being made to abolish this cause of inefficiency by an operation on the larynx, which I have introduced, and which I have reason to hope will be successful. If so, it will prove a boon of much value, not only to our mounted corps, but to breeders and owners of horses generally." A considerable time before this report was issued (January 20th) the Principal Veterinary Surgeon visited Aldershot, for the purpose of having two horses operated upon, the operator being Professor Smith, assisted by Veterinary Surgeon Poyser; and Inspecting Veterinary Surgeon Walters and several veterinary officers were present.

To further show the ignorance and malice of Mr. Dollar (J. A. W.), in *The Standard* of October 12th, he writes that Professor John Gamgee performed the operation in 1886-7, and also Professor Müller; and addressing the editor of that paper, he adds, "Through your own columns and those of your contemporaries, he (Dr. Fleming) eulogised his method of cure, and promised a record of further successful cases." It is needless to state that the latter sentence is wholly and entirely untrue, and was formally contradicted in *The Standard* of the following day. It was also pointed out that no one of the name of Müller had ever performed such an operation. That this name and the date of Gamgee's supposed operation were not misprints, is proved by Mr. Dollar giving them exactly in the same way in *The Star*, for October 10th. More unfounded statements from him appear in that paper, but these are not worth noticing at present. It may be remarked that, until a

short time ago, Mr. Dollar (J. A. W.) appeared to know as little of the subject as Mr. Jones, though he made up for this deficiency by audacity and disregard of facts; these, seemingly the outcome of a peculiar idiosyncrasy which seems to be a *hereditas damnosa*, characterise his effusions on Roaring, and by them only is he known to the professionat present. He is a very young and evidently inexperienced member, so let us hope he may be spared to recognise the value of truth and dates, and to learn something of a subject before he ventures to give an opinion upon it.

ON THE LATELY DEMONSTRATED BLOOD-CONTAMINATION AND INFECTIVE DISEASE OF THE RAT AND OF EQUINES IN INDIA.

BY H. VANDYKE CARTER, M.D.LOND., BRIGADE SURGEON, BOMBAY.

In July, 1877, the late lamented T. R. Lewis, soon after visiting Bombay to see the then newly found relapsing fever organism of man—Obermeier's blood spirillum—made the observation, also novel here, that the blood of seemingly healthy rats often contains a "flagellate organism" which at first sight was not dissimilar to a spirillum. Towards the close of 1880 Dr. Griffith Evans, A.V.D., whilst investigating in the Punjab frontier the equine disease known as "Surra" (a wasting disorder), made the further discovery that the blood of affected horses contained a specific parasite, which Dr. Lewis then identified as being very closely allied to the flagellated parasite of the rat; and by experiment Dr. Evans showed that the "Surra" contamination and disease were both communicable through inoculation to healthy horses and also to the dog. In January, 1885, Mr. J. H. Steel, A.V.D., when investigating a hitherto unrecognised disease amongst the transport mules in British Burma, found it to be the same as the "Surra" of the north-west provinces, and was further led to regard the specific organism as a "spirilloid," and the malady as a fever of relapsing type. Mr. Steel also showed that the monkey was susceptible of this infection, and at Dr. Evans's suggestion, having applied to me for some technical information, he was good enough to send from Burma to Bombay several specimens of the tainted blood of mule, dog, and monkey, through means of which, by direct comparison, I too was enabled to identify the hæmatozoon of "Surra" with that of healthy-looking rats; and the subject being an interesting one, I continued to pursue it at leisure during 1885. My notes at that time were generally confirmative of prior morphological observations, including Lewis's latest published memorandum in the *Quarterly Journal of Microscopical Science*, July, 1884 (which I had not then seen in India); and they also contain figures anticipating some quite recently given by Dr. E. M. Crookshank (Journal of the Royal Microscopical Society, under date November, 1886), who, in England, having examined Dr. Evans's specimens of the equine "Surra" blood, and of the tainted rats' blood procured in London, considers the hæmatozoon in both to be identical in character and in more detail to belong to the genus *Trichomonas* of Leukart. It therefore appears that not only is the morbid equine hæmatozoon of the Punjab the same as that of Burma (Poona, in the Deccan, may now be added, according to Mr. Steel), but also that both of them correspond to the hæmatozoon of rats at large in Calcutta and Bombay, and, moreover, to a like organism common in London rats. I will only add here that in India the camel may spontaneously suffer along with horses and mules; also that in Europe, with rats, the hamster may be thus contaminated, and certain fishes (the mud-fish and carp) with organisms not unlike.

Data from Bombay.—These include observations and experiments made

with fresh material derived from rodents (*a*), and a short account of Mr. Steel's equine and other specimens from Burma (*b*).

(*a*) *Observations on Rats' Blood.* — Animals obtained were chiefly of the species *Mus. decumanus* and *M. rattus* (?), the small brown or grey rat being oftenest found infected. A few examples examined of *M. bandicottus* and of *Sorex* species (also of mice) gave negative results. Males were the most numerous; in pregnant females the fœtus was not implicated. The animals were active, non-febrile, and barring injuries incidental to capture, all seemed alike healthy, so that one could not surely guess beforehand the state of their blood. Material for scrutiny was taken from root of tail or from the paws by puncture after cleaning: only a small-sized drop could be had daily, and the admixture of some impurities was unavoidable by this method. For inoculation and peritoneal injections blood from the heart was used. A magnifying power of 300 linear commonly sufficed, but the higher powers were used, and repeated scrutinies made when doubt existed; on such rarer occasions I have detected the Trichomonas in sealed specimens only on later trials, the number present being then extremely few. The animals were kept usually apart, and fed on wheaten bread, rice, and water *ad libitum*. Most were killed after examination; others preserved might survive for weeks or over a month, but most of them died at a much earlier period, apparently from the effects of confinement, or possibly as the result of injuries received. The temperature was taken twice or thrice daily *per rectum*, and usually in control-animals as well as those under experiment. From 99° F. a.m. to 101° p.m. (37·3°—38·4° C.) seemed to be the common range under conditions stated; but degrees somewhat higher and lower were occasionally noted, attributable perhaps to excitement or exhaustion.

Of 60 rats caught in February, 9 (or 15 per cent.) showed the Trichomonas; their source was various rooms in a large hotel, and the infected commonly came in groups of two or three from one room, which might be on an upper floor. Of 150 rats caught in August to December, only 16 (barely 10 per cent.) were found infected; their source was, however, more varied, namely, from dwellings or warehouses in several parts of the native town; and as only individuals were often brought, the evidence of an endemic source of infection was here less apparent, and valid inference regarding a possible seasonal influence could not be made. At the hotel alluded to the rats had finally become too wary to enter the traps, but some infected animals from the kitchens were caught together. Inclusive proportion showing the hæmatozoon, nearly 12 per cent., which is less than one-half of the percentage found in Calcutta and London.

A scrutiny of selected bi-daily records for 65 days did not reveal any pronounced or constant differences in the rectal temperature of infected rats as compared with the non-infected. And when it happened that the monads disappeared suddenly from the blood there was never noted any striking corresponding change of temperature; indeed, as the charts I have show, no change at all might ensue surpassing the normal range so far as known. Possibly under greater stringency some relationship of body-heat and this parasitism of the blood may be revealed, but none such has yet come to light.

I also failed to perceive any marked difference in the general state of the two sets of animals compared; both being equally liable to inconveniences or incidental hurt, either flourished or did not thrive in similar degree, for periods of several days or some weeks. If these data were not very numerous or rigidly exact, it was still clearly ascertained that the aspect of complete health was compatible with the presence of numerous flagellate organisms in the circulation. There was no evidence of a contagious influence.

A common lesion amongst animals kept was atrophy or necrosis of the tail, then usually the feet became swollen, and finally there were signs of para-

plegia and extreme debility. No animal kept in confinement lived longer than six weeks, and the majority not more than a fortnight, death usually supervening gradually as if from exhaustion, and a terminal febrile state never being witnessed. Mere confinement seemed prejudicial; and even if the diet were unsuitable the signs of actual starvation were not noted. Occasionally death was sudden and unsuspected, during the night, and as it spontaneous. All these events were common to infected and non-infected animals, about equally.

Fifteen special autopsies were made, of which nine were of rats showing the hæmatozoon, and in none of them did I see any peculiar coarse lesion of blood or of viscera or tissues of the trunk. The brain was not examined. Microscopically, the only change noted was an increase of leucocytes; the spleen elements seemed normal. Some details are the following, which may be useful to future observers:—

No. 1.—A large and active rat, with swarms of monads in the blood; strangled, and forthwith opened. The blood reddens and quickly sets; no marked changes anywhere visible; liver-tissue healthy and free from ova or hydatid. No intestinal entozoa; some hyperæmia of mucosa in ileum and clear mucus near the ileocæcal valve; the mucus of duodenum and ileum free from monads. Cœcum filled with greenish soft pulp containing many large ovoid ciliated monads (? Trichomonas), differing from the commoner form (Cercomonas). Larger infusorial species have been found in the cæcum.

No. 2.—A small animal, with parasites, being much injured, was killed. Organs of chest and abdomen of healthy aspect. The intestines contained a greenish pulpy food-mass, and were wholly free of entozoa or ova, nor were monads found in mucus of duodenum, jejunum, or ileum.

No. 3.—A small rat sickened and died, with hæmatozoa to the last. Body emaciated, heart and lungs of normal aspect, a small hydatid in the liver, no ova. The spleen elements normal; kidneys healthy-looking; stomach and intestines thin-walled, thin fæces present, a single worm (Echinorhynchus) in the small gut. No monads in the duodenal mucus.

In the next three animals the hæmatozoon had disappeared shortly before decease.

No. 4.—Pregnant female, not injured, non-febrile; became weak and died six days after capture, with sores; no visible cause of death. Parasites in liver and intestines as found in non-infected rats. The blood of two fœtuses free from hæmatozoa.

No. 5.—Died seven days after disappearance of the organisms. Aspect of blood not peculiar; coagulation and *rigor mortis* quick; viscera normal; ova in the liver; spleen unchanged; the feet œdematous; no bacilli in the serum there.

No. 6.—Died seven days after the gradual cessation of blood-infection. Emaciated; tail necrosed; at autopsy only wasting of the viscera.

Amongst rats always free from blood-contamination, so far as known, there was one autopsy with intestinal entozoa and ova in the liver as in No. 4 above; and another with the liver crammed with ova and no entozoa, the blood charged with leucocytes and plasm-clumps; in two other examples ova in the liver and numerous monads in the intestinal mucus.

Surgeon-Major Lewis's account of the rat hæmatozoon being easily accessible, it is not needful for me to offer a new description of it. Dr. Crookshank has added two other characters—namely, a spine-like process at the hinder thicker extremity, and a lateral longitudinal membrane; remarking also that the flagellum pertains to the front or advancing end of the organism, thus, as in the infusoria, generally acting as a tractellum, and not as a propelling means or pulsellum. These features I have been able to see and confirm.

The hæmatozoon should be examined not only in its fresh active state, but

as well after exposure to the fumes of osmic acid (which kills without distorting), and after desiccation and staining as done in bacterial research; for each method furnishes useful data.

When, as usual, tolerably numerous in the layer of fresh-drawn blood the parasites seem to be diffused, and are readily detectable through means of the peculiar twirling motion of the red discs in their proximity; when but few exist a patient or repeated scrutiny of the blood is needed; the aspects are the same when few or many are present. As the material of those organisms, like that of bacteria, resists the action of acids and alkalies sufficiently concentrated to destroy obscuring red discs, a measurement of their total number is best made after drying the specimens of blood, and before staining exposing them to the action of acetic acid or liquor potassæ, all the filaments present, by this method, becoming visible and readily counted. Often the number present in the field seems equal to or greater than that of the leucocytes, and occasionally comparable to a percentage of the red discs themselves; such a swarming may, however, be illusive; yet if the parasites were only $\frac{1}{500}$ the number of red discs, their total in the circulation would amount to some millions. As to the movements exhibited, whilst it is possible such may be exaggerated outside the body under conditions abnormal and likely to prove irritative, still it may be assumed that during their stay within the blood-vessels these organisms maintain a degree of activity curious to contemplate. As seen in the freshest blood, their movements are so rapid as to be followed with difficulty by the eye, certain optical impediments concurring thereto; yet evidently the chief one is that of progression more or less direct, and accompanied by a lateral lashing or sometimes an apparent rotation. Progression may doubtless be either backward or forward, and misled by the idea of the thicker end being the head of the organism, I (like Lewis) gained the impression that it commonly advanced; yet it is certain that when more tranquilly performed progression is really with the flagellate extremity in front, as is usual in the other infusorial monads: this datum is important.

In the fresh state the substance of these organisms appeared under the higher powers to be homogeneous and translucent; yet, as described below, there presently appeared one or more bright spots in the thicker part. The very delicate lateral membrane became visible only in my osmic acid and stained specimens, and these served to confirm Dr. Crookshank's later observations to a considerable extent. Aniline staining, which has proved so serviceable in bacterial researches, did not seem to me equally trustworthy here, on account of the inconstant degree and site of colouring which it imparted; at least by this means I did not become assured of the presence of internal organs or of definite series of reproductive particles. Mr. Steel's specimens from Rangoon, however, when stained with methyl-violet, showed distinct appearances of immature organisms or rudiments, such as I find Dr. Crookshank has also detected and figured in the rats' blood: they merit further attention.

The next topic I would notice is the changes exhibited by these hæmotozoa in blood hermetically sealed, at rest and at a temperature of 70°—80° F. in the shade. Numerous experiments were made in February and in September, 1885, and at the time I was not aware that Lewis had made similar observations as recorded in his second Memoir; subsequently Dr. Crookshank has also alluded to this subject. My own results may be illustrated by the following extracts from note-books preserved:—

February.—A minute clot of infected rat's blood was covered with a drop of ·75 per cent. solution of common salt, and examined at intervals with $\frac{1}{12}$ inch water immersion lens. After 3 hours, in the lateral open spaces movement less active; the thick end of the filaments seems to drag and bulge at intervals, showing a contractility of its substance which is still uniformly clear;

blood-cells unchanged, the red forming rouleaux; some micrococci have appeared oscillating apart. As the monads become quiescent they seem more slender and flattened, the ribbon-like margin wavy or angular; and that this change is not due to simple desiccation is evident from the red discs preserving their form and floating freely; next, a stiff, crumpled aspect ensues, the body of the organism assuming a skate-like form, the flagellum being still round, flexible, and mobile. At 4½ hours a few bright dots appear in the motionless body, the flagellum still occasionally lashing spasmodically, as it were, and now it would be hard to recognise the monad. At 5 hours the bright dots are distinct, but not more numerous, the flagellum bent, clear, and quiet; red discs unaltered. Another specimen shows that the bright specks might be due mainly to knots or foldings, but some resemble "vacuoles." Not every one of the organisms here presents identical changes at the same hour, nor are all the red discs precisely alike; therefore some difference of individual properties may be inferred. The above description applies to the parts towards the edge of the thin glass cover, whilst nearer the centre of the preparation, where the blood-clot rests, the changes are very much less marked and the organisms are still active; in the central part appearances remain precisely as at beginning of the experiment. Shortly afterwards the changed monads at the sides were but faintly visible; and on the following day (27 hours) no other changes indicative of development were to be seen in the specimens, which had then become clouded. In an experiment with blood diluted with aqueous humour of the rat the monads had in the course of 4 hours become shrunken, bent, stiff, granular, and motionless; whilst in similar blood diluted with the salt-solution they remained very active at a like interval.

(*To be continued.*)

Reviews.

ILLUSTRATED HORSE BREAKING. By CAPT. M. HORACE HAYES. (London: W. Thacker and Co. 1889.)

Captain Hayes is so favourably known as a writer of popular books on horses, that any addition he may make to the list already published is certain to command attention and deserve perusal. His present venture is as good in its way as any of his previous efforts, and will prove as interesting as it is certain to be useful. From time immemorial there have been horse-breakers, but those of recent times appear to rival their predecessors in fertility of resource, ingenuity in device, and reasonableness in application of their skill. Rarey was the first, perhaps, of the modern horse-breakers or tamers, and Hayes is the latest of the exponents of the new system. Between the two, others have appeared, and each seems to have given his quota of improvement; so that we suppose we may regard Hayes' remarks on the subject as the result of the cumulative observation and experience of all. The work is eminently practical and readable, and has much in it to interest and instruct veterinary surgeons, especially in handling and applying restraint to horses under different conditions, the necessary instruments being described and figured. The illustrations form a marked feature of the work, these

being fifty-two in number, and are well drawn by Mr. J. H. Oswald Brown.

TRATTATO DI OSTETRICA VETERINARIA. Per il DOTT. FEDERICO BOSCHETTI e DOTT. ROBERTO BASSI. (Unione Tipografico-Editrice Torinese. 1889.)

Some time ago, the medical and veterinary professions in Turin formed a company or union for the purpose of publishing works useful to both branches of medicine; and so far as the veterinary profession is concerned, in the brief time that has elapsed its members and students appear to have no cause for complaint. Chauveau's classical anatomy of the domesticated animals has been translated from French into Italian by Dr. Boschetti, assistant professor of General Pathology and Pathological Anatomy in the Royal Veterinary School of Turin, and one of the most promising of the younger teachers of the Continental schools. The same talented writer has now undertaken the translation from English into Italian of Fleming's "Veterinary Obstetrics," and the first instalment of the work, which is to be published in about twenty-five parts, being now before us, we have nothing but praise for the manner in which it is produced. In addition to the excellence and the fidelity of the translation, the work will have the great advantage of the supervision and annotation of Dr. Bassi, Professor of Pathology, Clinical Surgery, and Obstetrics, in the same school, and whose name is so well known to those who are familiar with foreign veterinary literature.

The Italian veterinary surgeons already possessed two good works on this subject, by Cattaneo ("Manuale di Ostetrica Veterinaria") and Dr. Lanzillotti-Buonsanti, of the Milan Veterinary School; this selection of an English treatise on veterinary obstetrics, instead of one in any other language, may be accepted as a compliment to the profession in this country.

THE TROPICAL DISEASES OF THE HORSE. Second Edition. By R. W. BURKE, M.R.C.V.S., A.V.D. (Imperial Press, Jubbulpore. 1888.)

We are glad to see that Mr. Burke's excellent little book has reached a second edition, as this has given him an opportunity of improving it considerably and bringing it up to date, and so making it more useful to veterinary surgeons in the tropics.

We quite concur with the author when he asserts that "India still offers the best, the widest, and the most fruitful field for pathological investigation; and in no other service than in that of the veterinary department has a young officer so fair a chance of advancing our knowledge of disease. As a necessary part of his education, and as one of the means of making himself competent to this full discharge of his duties, every young practitioner or army veterinarian, before going to the East, ought to make himself thoroughly acquainted with at least the main facts of tropical diseases."

The book is valuable and interesting to others besides veterinary surgeons in the tropics, and gives evidence of the wide reading and careful observation of Mr. Burke.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF COUNCIL, HELD JANUARY 31ST, 1889.

Professor PRITCHARD, President, in the chair.

Present.—Professors Axe, Brown, Duguid, McCall, Walley, and Williams; Messrs. Barford, Briggs, Carter, Cartledge, Dray, Greaves, Mulvey, Simpson (Sir H.), Simpson (James), Storrar, Taylor (P.), Wilson, Woods, and Wragg; Mr. Thatcher (Solicitor), and the Secretary.

The SECRETARY read the notice convening the meeting.

On the motion of Mr. TAYLOR, seconded by Mr. DRAY, the minutes of the last meeting were taken as read.

The SECRETARY announced that the letters expressing regret at their inability to be present at the meeting had been received from General Sir F. Fitzwygram, Mr. Cox, Mr. Perrins, Mr. Whittle, and Dr. Fleming.

Presentations to the Library.

The "Calendar of the Pharmaceutical Society" for 1889.

"The Excellent History of the Percheron Horse," by W. T. Walters, Esq, presented by Mr. Robert W. Ward, of the United States.

A photograph of a Troop Horse suffering from Anthrax, taken two hours before death, presented by Mr. T. Marriott, Punjaub, India.

On the motion of Mr. DRAY, seconded by Mr. TAYLOR, a vote of thanks was passed to the donors.

A letter was read from Mr. Stephenson, of Newcastle, tendering his resignation as Vice-President.

The PRESIDENT said he had written a private letter to Mr. Stephenson, asking him to reconsider his resignation. Since then Mr. Stephenson had attended one if not two committee meetings, and he (the President) therefore came to the conclusion that he had reconsidered his decision. Yesterday, to make quite sure, he instructed the Secretary to send a telegram, and another was received in reply, saying, "Do not withdraw resignation. Stephenson."

Mr. MULVEY proposed, and Mr. TAYLOR seconded, that the resignation be accepted.

Sir HENRY SIMPSON was of opinion that any member might at any time resign by sending in his resignation in writing. Even if Mr. Stephenson had reconsidered his decision he could not have been readmitted, because the Charter said that sending in a resignation was sufficient.

This resolution was agreed to.

A letter was read from Mr. Steel asking that the Bombay Veterinary College might be recognised by the Royal College of Veterinary Surgeons.

Professor WALLEY said that some time ago a committee was appointed to inquire into not only this particular subject, but also into the Canadian and American colleges. What had become of that committee?

The PRESIDENT thought it had been allowed to lapse. There was never any meeting of the committee, which consisted of the principals of the schools.

Professor WALLEY thought the subject was not referred to the principals alone. It would have been very invidious for the principals to sit in judgment upon other colleges.

Mr. TAYLOR moved that a committee be formed consisting of Dr. Fleming, Sir Henry Simpson, Professor McCall, Professor Williams, Professor Walley, and Professor Brown, to take into consideration whether the Bombay School should be recognised.

Mr. GREAVES seconded the motion, which was carried.

The SECRETARY announced that an application had been received from

Mr. L. D. Williams, enclosing his diploma and the Principal's verification. He supposed that the committee would deal with that in the same way.

This suggestion was agreed to.

A letter was read from Mr. J. Roalfe Cox, dated 29th January, 1889, explaining his absence from the last quarterly meeting of the Council in October last.

A letter was read from Mr. W. F. Garry, dispensing chemist, asking to be exempted from the first professional studies because he held a certificate of the Pharmaceutical Society.

Mr. TAYLOR said he could not be exempted. The Bye-laws would not permit it.

The SECRETARY was instructed to send the usual reply.

A letter was read from Mr. D. F. Dubäsh, of the Bombay Veterinary College, asking if a graduate of that college could be entered for the Final Examination without going through the curriculum of the Royal College of Veterinary Surgeons.

The letter was referred to the committee which had been appointed.

A letter was read from Mr. Robert G. Brozell, asking whether he could forego the Final Examination, he having passed the First and Second Examinations.

Professor WILLIAMS said that Mr. Robert G. Brozell, who was a former student of his, failed two or three times at the Final, and he now wanted a diploma without further examination. It was quite beyond the scope of the Council.

Mr. TAYLOR said the request could not be granted.

The SECRETARY said he had already written to that effect.

A letter was read from Mr. Jno. Adam McBride, praying the Council to grant him a certificate, he having lost his diploma on leaving Japan for England.

Professor WILLIAMS said that Mr. McBride had been back in this country for several years, and was now practising at Stroud.

Mr. BARFORD moved, and Mr. STORRAR seconded, that a letter should be sent to Mr. McBride stating that the proof of the diploma having been lost was not quite sufficient, and that under those circumstances a certificate could not be granted.

The resolution was agreed to.

The SECRETARY read the report of the Finance Committee, which showed that the present balance at the bankers amounted to £573 4s. 11d.

On the motion of Mr. DRAY, seconded by Mr. TAYLOR, the balance-sheet was received.

Mr. WRAGG moved that the report be adopted.

Mr. DRAY seconded, and suggested that the Council should grant permission for cheques to be drawn to meet liabilities.

Mr. WRAGG asked if the Council could see their way to alter or rescind their resolution to charge for the use of rooms in the College by any member of the profession, so that the National Veterinary Association might be able to hold its next summer meeting in the College, and that any other veterinary association might have the same privilege on payment of expenses for firing, gas, etc.

Mr. DRAY protested against rescinding the resolution.

Mr. TAYLOR proposed, and Mr. DRAY seconded, that the resolution be not rescinded.

Mr. WRAGG said he could see that the feeling of the Council was opposed to his proposal, and he would therefore withdraw it.

Professor BROWN called attention to Regulation 7, in regard to Final Examinations, which, so far as the Camden Town School was concerned, worked extremely badly. It amounted to this, that a man who had a practice

of his own and failed in his Practical Examination might go back until a month before the examination, the date of which he had somehow or other to find out. It really was commonly not known a month before, and even if it were known the colleges did not know the men who intended to come up for the next examination. Under those circumstances, a man must get some one to look after his practice while he attended the College and received instruction on subjects in reference to which he had already passed his examination. In his opinion, the object of the Council would be perfectly met by saying that each student who had successfully passed the oral sections should forthwith present himself at the Practical Examination. Should he fail, he might be permitted to attend at the succeeding Practical Examinations, either for a specified or an unlimited number of times. On no principle that he could realise was there the slightest occasion for his returning to the College. Under those circumstances, unless there was some strong objection on the part of his colleagues, he would propose to give notice of the alteration which he had just suggested.

Professor WILLIAMS said he quite agreed with Professor Brown. In his opinion, in the original alteration of the Bye-law the return to the College for a month was never thought of. It only came in at the last moment, and he would gladly second Professor Brown's proposal.

Professor MCCALL said it might seem that he had introduced the conditions when he moved that the Oral and Practical Examinations should be disjoined, but in reality he was forced to do so. The question was put, what were the students to do after they had passed their Oral, and it was specially stipulated that they must remain at the College, or be in attendance with a member of the Royal College of Veterinary Surgeons, and that that member was to certify to the Principal that they had been so in attendance. It never was contemplated for one moment that a student who had passed his Oral would be allowed to engage in practice for himself. It was a very good thing that he should return to the College for a month. At the same time he should be delighted if the Council felt inclined to expunge the conditions, though in doing so he thought they would open the door too wide.

Mr. JAMES SIMPSON objected to any alteration of the Bye-law.

Professor BROWN said he had not intended to raise any discussion, but if allowed, he would put up a notice in the usual form, and the matter could be discussed at the next meeting.

Professor WALLEY said the understanding was that all students then in a college would be under the old rule, so far as twenty years of age was concerned.

Professor BROWN said it was unquestionably so understood, and it was distinctly stated that the Bye-law would not be pressed.

The PRESIDENT said that a man who was in a college at the time of the passing of the Bye-law must be now of proper age, or else he must have been very young when he entered the college.

Professor WALLEY said that Mr. Rutherford had refused to take a man who was six days under twenty.

Professor BROWN said that after the Byelaw was passed, and the understanding was arrived at in the Council that it should not be enforced on those men who were already entered, some half-a-dozen came to him and asked if they would be allowed to go up, and he signed their certificates, acting strictly in accordance with the understood agreement.

Mr. TAYLOR said the Scotch schools should be treated in the same way.

The SECRETARY read the "Report of the Committee on Hereditary Unsoundness."

Professor BROWN thought that the subject which had been brought before them by the letters of the Royal Agricultural Society and the Royal Com-

mission was perhaps one of the most important with which the Council had ever had to deal, and the whole circumstances reminded him of the classical fable of the Sphinx, which the poet said appeared on the shores of the Ægean Sea and stopped all the passers by, asking each an abstruse riddle. If the riddle were not answered satisfactorily the unfortunate passenger was immediately devoured. In the present case the Sphinx was represented by the Royal Agricultural Society and the Horse Breeding Commission, while the Council were the unfortunate passers by. If they did not give a satisfactory answer to the riddle which had been proposed to them, they would meet an infinitely worse fate than befell the passing Greek. They would not run the least risk of being devoured, but they would be made to look ridiculous. The Association and the Commission expected to be told distinctly what particular diseases the Council, as representing the profession, intended for the future to accept as a legitimate cause for disqualifying animals for breeding purposes. It was undoubtedly very desirable that the matter should be settled at that meeting by the Council, and that a report should be in the hands of the Association and the Commission by the beginning of next week. He suggested that a letter should be written, stating that after having conferred with the members of the profession, the Council was prepared to enumerate certain diseases as legitimate causes for the disqualification of animals for breeding purposes. Then would follow the diseases which the Council decided upon after discussion.

Sir HENRY SIMPSON said the Council must be careful not to stifle the voice of the profession. At least half those gentlemen who had professed to give any opinion at all considered that Roaring, Side-bone and Spavin were hereditary diseases. That was a *prima facie* reason for including those diseases. At least one third decided that Shivering, Splint, Grease, and Cataract were hereditary diseases.

Professor BROWN suggested that the word "hereditary" should not be used at all. It was a most dangerous expression.

Sir HENRY SIMPSON agreed with Professor Brown. Would it not be worth while, considering the numbers of the profession who had expressed an opinion on those diseases, to limit the discussion to the first ten in the list?

Mr. JAMES SIMPSON said he should be guided by the number of votes given.

The PRESIDENT thought the suggestion thrown out by Sir Henry Simpson, that the Council should take the majority of votes in selecting the diseases which should be looked upon as disqualifications, was a very good one.

Sir HENRY SIMPSON proposed that all those diseases which half the gentlemen appealed to considered disqualifications should be admitted, namely, Roaring, Side-bone, Ring-bone, Navicular Disease, Curb, and Spavin.

Mr. CARTLEDGE.—Would you say both Bone and Bog Spavin?

Sir HENRY SIMPSON.—Yes. He would leave out "Spavin" from his resolution, in order that it might be discussed separately.

Professor WALLEY seconded the motion, that the first five diseases were disqualifications.

The resolution was passed.

Sir HENRY SIMPSON said that there were 206 votes in favour of Bone Spavin being a disqualification, and 126 in favour of Bog Spavin. Those two added together amounted to a sufficient number out of the 385 returns to justify the Council in disqualifying animals having those diseases. He would propose that the word "Spavin" be included in the list.

Mr. TAYLOR seconded the motion.

Professor AXE moved as an amendment that "Spavin," in its general acceptation, be included in the list, without any reference to any special acceptation of the term.

Professor WALLEY seconded the motion.

Professor WILLIAMS said that would include Bone, Bog, and Occult Spavin.

Mr. CARTLEDGE did not think that the Council could distinctly say that a disease of the articular surfaces of the bone could be called "Spavin."

Professor AXE thought that the term "Occult Spavin" should be eliminated from usage, and therefore he would alter his proposal so as to include only Bog and Bone Spavin.

Mr. BRIGGS suggested that the words should read, "Bone Spavin and Bog Spavin."

Professor Axe's amendment with this alteration was put to the meeting and carried.

Sir HENRY SIMPSON said that the next four on the list were "Splint, Grease, Shivering, and Cataract." There seemed to be no difficulty about "Grease," "Shivering," and "Cataract;" but with regard to "Splint," while everybody knew that it was hereditary, it was not of such serious consequence as to cause the rejection of a horse. He would therefore propose that "Grease," "Shivering," and "Cataract," be included in the list.

Professor BROWN seconded the resolution.

The resolution was carried.

Professor AXE said there were three or four affections, with regard to which qualifying representations should in his opinion be made. He would hardly like to omit "Splint" from the list, because he thought that under certain circumstances it was a legitimate reason for disqualification. If a horse had multiple splints in proximity to the knee-joints he certainly should give a negative answer to the desirability of using it for the stud. There were also certain conditions of feet which should not be passed over. Next, practical breeders knew that Bursal Enlargements were hereditary, and that would include Thoroughpin.

Professor WILLIAMS proposed that "Thoroughpin" be added to the list.

Professor MCCALL did not think it necessary to add "Thoroughpin" to the list.

Prefessor AXE moved that Bursal Enlargements may, under certain circumstances, be considered to constitute reasonable grounds for rejection.

Sir HENRY SIMPSON seconded the motion.

Professor Williams's proposal to include "Thoroughpin" in the list was negatived.

Professor Axe's proposal, in the following words, "That Splint, Contracted Feet, Weak Feet, Bursal Enlargements, such as Thoroughpin and Windgall, under certain circumstances, represent reasonable grounds for rejection," was carried.

On the motion of Professor AXE, seconded by Professor BROWN, "Stringhalt" was added to the second list.

Mr. BARFORD proposed, and Mr. STORRAR seconded, that "Lymphangitis" be added to the second list.

The motion was put and lost.

On the motion of Mr. WILSON, seconded by Professor MCCALL, the report of the Committee was received and adopted.

Professor WILLIAMS asked if "Roaring" included "Whistling."

Sir HENRY SIMPSON said that he intended it to do so.

The SECRETARY read the report of the Registration Committee.

On the motion of Mr. WRAGG, seconded by Mr. CARTER, the report was received, and on the proposal of Professor MCCALL, seconded by Mr. WRAGG, it was adopted.

The report of the Court of Examiners was taken as read.

Sir HENRY SIMPSON asked if the President would call a meeting of the committee appointed last October to inquire into the salary, duties, and

allowances of the Secretary of the College, in order that they might be able to report to the next quarterly meeting.

The PRESIDENT said he would take care that that was done.

On the proposal of Mr. WRAGG, seconded by Professor WILLIAMS, Messrs. Broad and Woodger were appointed auditors, and on the suggestion of the PRESIDENT, it was agreed that Mr. Roots should be asked to act if required.

On the motion of Mr. JAMES SIMPSON, seconded by Professor WALLEY, the committee to draw up the Annual Report was reappointed, consisting of Dr. Fleming, Professor Brown, Sir Henry Simpson, and Mr. Dray.

Professor BROWN brought forward the following draft of a letter for the Secretary to send to the secretaries of the Royal Agricultural Association and the Royal Commission:—"Sir, I am directed by the President of the Royal College of Veterinary Surgeons to inform you that in accordance with the request contained in your letter of . . . . the Council of the College communicated with the members of the veterinary profession residing in Great Britain, with the view of obtaining an expression of opinion as to the diseases which render an animal (stallion or mare) unfit for stud purposes. Having considered the evidence which has been laid before them, the Council of the College are of opinion that the following diseases shall be deemed to be a legitimate reason for disqualification:—Roaring, Side-bone, Ring-bone, Navicular Disease, Curb, Bone Spavin, Bog Spavin, Grease, Shivering, Cataract. The Council also consider that under certain circumstances the undermentioned diseases shall be deemed to justify the rejection of an animal for breeding purposes:—Splint, Stringhalt, Contracted Feet, Weak Feet, Bursal Enlargements (such as Thoroughpin and Wind Gall). I am, sir, your obedient servant."

On the suggestion of Professor WILLIAMS, "Whistling" was added to "Roaring."

Professor WALLEY proposed, Sir HENRY SIMPSON seconded, and it was agreed to, that a letter in the terms suggested by Professor Brown should be sent to the Secretaries of the Royal Agricultural Association and the Royal Commission on Horse Breeding.

The Obituary Notice was taken as read.

The May Examinations were fixed for May 14th in London, and May 21st in Scotland.

SPECIAL MEETING.

Mr. WRAGG, in moving his notices of motion, said it appeared to him that the laws for conducting the election of members of the Council were very weak. Every municipal and parliamentary election was governed by stringent laws, and it behoved the Council, as men of business, to see that their elections were conducted in a business-like manner, which they were not at present. Without further preface he would move the alterations of which he had given notice.

Professor WILLIAMS seconded the motion.

Professor WALLEY said that considerable time was spent not long ago in revising the Bye-laws, and he proposed as an amendment that the whole matter be referred to the Bye-laws Committee for them to report on it.

Mr. WOODS seconded the amendment.

The amendment having been put, was carried.

On the motion of Mr. WILSON, seconded by Mr. JAMES SIMPSON, Mr. Wragg's name was added to the Bye-laws Committee.

A vote of thanks to the President, proposed by Mr. WOODS, and seconded by Professor MCCALL, was agreed to.

Sir HENRY SIMPSON drew attention to a clay bust of Professor Robertson which had been placed in the Council Room. The Professor's students, immediately on his death, decided that they would like to have his bust placed

in the Royal Veterinary College, and Mr. Birch had prepared a clay model. The amount required was £250 for two bronze busts; £80 had been collected, and he wished to consult the Council ex-officially as to whether they would like a companion bust placed in their Council Room.

The proceedings then terminated.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE annual meeting and dinner of the above Association was held at the Victoria Hotel, Victoria Street, Manchester, on February 8th.

Present: E. Faulkner (President), Messrs. Thos. Greaves, Peter and W. A. Taylor, S. Locke, J. B. Wolstenholme, T. Hopkin, J. Moore, P. Pike, Lloyd Jones (all of Manchester); H. Ferguson (Warrington), Jas. Hart (Oldham), W. Woods, Jun. (Wigan), Thos. Briggs (Bury), R. C. Edwards (Chester), W. Noar (Bury), J. S. Hurndale (London), H. Edgar (Dartford), E. S. Gubbin (Glossop). Included in a list of distinguished visitors were Alderman Schofield and Councillor Gibson (Manchester City Council), Professors Williams, Lewis, and W. O. Williams; Messrs. F. W. Wragg, R. C. Trigger, W. Lodge, W. F. Greenhalgh, Chas. Phillips, A.V.D., W. Hall, Dr. Dreschfeld (Owen's College), Drs. Fairclough and Heslop, Major Heap, Rev. H. Leathley, J. E. Boden, C. Martyne, G. Lorriman, J. E. Beckett, F. Green, J. D. Allman, J. Evans.

Letters of apology, regretting their inability to attend, were received from upwards of forty gentlemen, amongst whom were the Mayor of Manchester (Alderman Batty), prevented by indisposition, Prof. Young (Owen's College), Profs. McCall, Walley, Axe, MacFadyean, and Brown, Prof. Pritchard (President of R.C.V.S.), G. Fleming (P.V.S.), L. L. Daud, also J. W. Maclure, M.P. (Manchester), and W. Hunting (London).

Mr. Peter Pike, M.R.C.V.S. (Manchester), Mr. William Noar, M.R.C.V.S. (Bury), and Mr. Joseph Urmson, M.R.C.V.S. (Bolton), were elected members of the Association.

The following were nominated for membership of the Association: Messrs. Ernest S. Gubbin, M.R.C.V.S. (Glossop), and William Hall, M.R.C.V.S. (Royton).

It was decided that the day and date of the next meeting be left open, in order to facilitate arrangements being made for a discussion on "Parturient Apoplexy," to be introduced by Messrs. J. B. Wolstenholme (Manchester) and Dr. Cullingworth (London).

Proposed by the PRESIDENT, seconded by Mr. J. B. WOLSTENHOLME, that Mr. Peter Taylor be the nominee of this Association at the forthcoming election of Council, which, after being supported by Mr. THOMAS GREAVES, was carried by acclamation.

Mr. TAYLOR afterwards replied.

Proposed by Mr. THOS. GREAVES, seconded Mr. H. FERGUSON, that the usual Election Committee be appointed, and that this Association combine as heretofore with the Yorkshire and Midland Associations.—Carried unanimously.

The PRESIDENT then delivered his inaugural address:—

GENTLEMEN,—This is the twenty-sixth annual meeting of the Lancashire Veterinary Medical Association, and having been unanimously chosen to preside over your deliberations during the ensuing twelve months, I gratefully acknowledge and appreciate this evidence of your good-will, esteem, and confidence, and trust, by conducting affairs in a courteous, fair, and impartial manner, assisted by the able gentlemen you have appointed to co-operate with me in the work, that we shall, at the expiration of our year of office, so have furthered the interests of this Association as to merit your approbation.

Representing, as does this Society, the profession in the County Palatine of Lancaster, and numbering some seventy members, this combination should

prove a power, the prime mover and centre of an ever-widening and increasing usefulness, scientifically, professionally, socially, and pecuniarily; and of those good men and true who have striven and wrought to keep this county of the Red Rose in the van of professional progress, I say all honour, and may they have their due reward.

Societies such as ours are of incalculable benefit from various points of view. Our senior members must, I feel assured, have derived many advantages therefrom, or why have they been such regular attenders and active workers? Surely the benefit they derived has been that which they sought, an extension of knowledge and clearer comprehension of things, better fitting them to practise their professional calling. And if our seniors have improved by being attached to an Association, what can be said of the golden opportunities placed directly in the path of junior members, the chances of self-improvement to be gained from the accumulated and varied experience of those much longer in the profession? Why, they are incalculable and priceless to all possessed of aspirations and an earnest desire for self-improvement.

I am much impressed by one particular advantage gained in joining veterinary medical associations directly after leaving college, in the chance offered of cultivating debating power. This can only be acquired by practice, and necessitates study, sharp and precise habits of thought in forming a judgment, and a ready facility in expressing the conclusion arrived at in lucid, comprehensive, and convincing language. This is a most desirable acquisition, should be sought after in early life, and is serviceable at all times.

Our coming meetings for the reading and discussion of scientific subjects will, I trust, prove rich in matters of special pathological and therapeutic interest, the result of close and careful observation, with minute and accurate notes thereon, and the preparation and exhibition of morbid specimens. Further investigation as to the etiology, morbid anatomy, pathology, therapeutics, and prevention of such diseases as Purpura Hæmorrhagica and Azoturia is still urgently needed, as in some instances so severe and suddenly fatal is the attack that our efforts to cope with it are entirely futile.

This Society might with decided advantage follow the course taken by others, in having all papers of considerable scientific interest printed and circulated amongst the members prior to the day of meeting. An opportunity would thus be afforded for reading up and studying the subject and forming a judgment thereon, with the probable result that the value of the discussion would be enhanced by being untrammelled with superfluities. Such discussions would be the outcome of matured consideration, and worthy of being permanently recorded in their entirety. This I am aware would necessitate the employment of a reporter on special occasions, in which I see no insurmountable obstacle, provided the end justify the means.

In turning now from our Association in particular, and glancing at the veterinary profession in general, how does it stand to-day in comparison with the past? Progressing, undoubtedly. In scientific knowledge and attainments, much advanced and advancing; professional and social standing, improved and improving. As evidence of advance in science, we have now within our ranks gentlemen of high scientific attainments, thoroughly competent to take in hand and carry through original investigations and scientific research, we have others who have established an enviable reputation by means of their surgical operations, skill as chloroformists, etc., and as scientific general practitioners we are so much advanced as to be inferior to none.

In the domain of literature much has been accomplished; reference to verify such need only be made to the works of Williams, Fleming, Robertson, Walley, MacFadyean, Smith, Hunting, Steele, and many others, and in addition the monthly, quarterly, and weekly publications of the profession, amongst which the *Journal of Comparative Pathology and Therapeutics* stands conspicuous,

eminently filling, as it does, a decided professional want; and such may also be said of that piquant, useful, and instructive organ the *Veterinary Record.*

Our evidence of improved professional and social standing is in the increasing recognition of the importance of our profession by the sister and other professions and learned societies; the calls that are made for professional services and information by agricultural societies and colleges, special commissions, horse-breeding committees; etc., the rank and position in life occupied by many of our members, who are known to be gentlemen of ability, and the honours that have been bestowed upon them.

Notwithstanding the advance already made, I am hopeful that the positions won will not only be maintained, but added to, and that our profession may be found ever progressing, striving to deserve success, command confidence and public esteem, and be equal at all times to whatever demand is made upon it.

As extra incentives, and being specially needful for the proper encouragement of advanced study in special subjects in the matter of higher education, our profession stands much in want of endowments, bursaries, and scholarships, through which the necessary extended education could be obtained to fit those having the inclination, ability, and opportunity to become educated as specialists in any of the various branches of our science, such as chemistry, medicine, hygiene, pathology, micro-biology, etc.

Now that the subjects taught and examined upon are so divided, and such ample time is allowed students to become thoroughly educated, the day will come, and that I hope ere long, when there will be an increase in the time students are under examination, and with that a corresponding increase of practical examination in all subjects, as a test of ability as practical anatomists, botanists, chemists, and microscopists. This, with the addition of a written to the *vivâ voce* examination, must tend to professional advancement and stability.

To the medical profession, for material assistance in the past, we owe a debt of gratitude, and now that we are able to walk and act our part as specialists concerned with the well-being of the lower animals, we trust to be co-workers with the sister profession in the extensive field of comparative pathology; for in certain directions it is a well-recognised fact that the two professions are in touch, necessitating a combined working, for complete, accurate, and thorough investigation of those diseases communicable from animals to man. So much is this understood and appreciated on the Continent that in Paris, last year, the congress gathered together for the consideration of that important malady Tuberculosis was one composed of representatives of the two professions, to the undoubted advantage of the question under consideration. May such be the course adopted here in time to come, when like diseases are under consideration in this country, from which benefit will accrue to the public and both professions.

So important is the question of the veterinary profession being the proper sanitary authority as to the diseases of animals communicable to man, the fitness of flesh and milk for food, and the presence or otherwise of injurious parasites, and also that the inspection of dairies, shippons, and slaughter-houses should be entrusted to them, that recently a meeting of veterinary surgeons practising in this city memorialised the Mayor as to the desirability of having a veterinary department in connection with that of the medical officer of health, and the matter is at present under the consideration of the city authorities.

I am now, gentlemen, about to bring my few remarks to a close, but before so doing should like to touch briefly upon our pecuniary interests, which under present circumstances and condition of things are not unworthy of consideration, in the hope that by a mutual good understanding, and becoming

more combined and cemented together for a common good, a remedy for an unpleasant state of things may be found.

We are all aware that to-day, in comparison with the past, members of our profession must either render more service for the same return or the same amount of service for a less return. This we all know is a condition of the times, the result of increased supply and competition. With this it is useless to complain, but what to my mind calls for discontinuance is the soliciting and canvassing for business not in the market, by established members of the profession, and the offered reduction in charges in order to secure it. This tends only in one direction—degradation of the profession, and the supply of professional services at a price in some instances barely remunerative, in others unremunerative.

I am one of those who believe there is work for all possessed of industry, ability, skill, and business capacity, at remunerative prices, without any necessity for one acting unprofessionally towards another, or endeavouring to enrich himself by another's loss. Can we not, then, combine in such a manner as to have a uniform scale of fees, fairly serve the public, and also protect each other's interests, remembering well and striving to do one to the other as we would each be done by ?

Mr. HOPKIN thanked the President for his able discourse, and proposed a vote of thanks, which was seconded by Mr. JAS. HART, and was accorded unanimously.

The dinner afterwards took place.

Dinner being over, the usual patriotic toasts were given by the President, viz., "The Queen," followed by that of "The Prince and Princess of Wales, and the rest of the Royal Family," musical honours being accorded, Mr. S. Locke rendering the solos in his usual excellent manner.

"The Army, Navy, and Auxiliary Forces" found an able advocate in its proposer, Major HEAP, and was happily responded to by Mr. HART.

Mr. W. A. TAYLOR, in proposing "The Mayor and Corporation of Manchester," after some preliminary remarks, dwelt upon the matter at present under the consideration of the City Council, viz., the necessity for the co-operation of a veterinary sanitary authority with that of the medical officer of health.

In the absence of the Mayor, the toast was responded to by Alderman SCHOFIELD and Councillor GIBSON.

"The Medical Profession" was proposed by Mr. PETER TAYLOR, and responded to by Drs. DRESCHFELD and HESLOP.

"The Veterinary Profession" was proposed by Dr. FAIRCLOUGH, and Professor WILLIAMS and Mr. THOMAS GREAVES responded.

Professor WILLIAMS then proposed the health of the President, and in terms of eulogy and praise dwelt upon his professional career from the time he had first made his acquaintance.

The PRESIDENT thanked Professor Williams and the other gentlemen present for the very hearty manner in which they had drunk the toast of his health. He appreciated the sentiments expressed by Prof. Williams, and concluded by stating that he would endeavour to the utmost of his ability to promote the success and welfare of the Association during the coming year.

Mr. J. B. WOLSTENHOLME proposed the toast of "The Visitors," Mr. R. C. TRIGGER responding.

Mr. J. S. HURNDALL, in very appropriate terms, proposed the health of the ladies, which was responded to by Prof. LEWIS.

The meeting was indebted for the musical portion of the evening to Councillor Gibson, Dr. Fairclough, Mr. Sam Locke, and Mr. J. S. Hurndall.

ARTHUR LEATHER, *Hon. Sec.*

THE CENTRAL VETERINARY MEDICAL SOCIETY.

An ordinary general meeting of the above Society was held at the First Avenue Hotel, Holborn, on February 7th. Mr. Alfred Broad (the President) occupied the chair, and there were present twenty-two Fellows and two visitors.

Letters of apology for non-attendance were read from Professor Walley and Mr. William Lewis.

Mr. Raymond announced that he had handed over to the Charity Organization Society the money collected at the last meeting in aid of Mr. C. J. Thompson; that he had also seen Mrs. Thompson, and he was in a position to assure them that the case was most deserving of their charity.

Morbid specimens were then exhibited, as follows:—By Mr. Arthur Rogerson, the pelvic bones of a mare, showing an old-standing and a recent fracture; by Mr. Caton, the tibia of a horse which, he pointed out, also gave evidence of old-standing and recent fracture. He considered one fracture was of a month or more standing, the other of less than twelve hours.

Opinion on this point was divided, some gentlemen considering it a case of "deferred fracture."

Mr. Overed, of Finchley, exhibited the stomach of a mare showing ulceration, which he thought was produced by the administration of arsenic or some other irritant poison.

The President showed the penis of a dog with an urethral calculus *in situ*. The dog, for the last few days of its life, was unable to urinate except in drops, which appeared to cause great pain. Although he (the President) recognized the presence of the calculus, he was unable to remove it by mechanical means on account of the very small size of the urethral canal.

Mr. Alfred Broad then addressed the meeting as follows:—

My remarks this evening are on some of the salient affections of the colon. I trust you will excuse their short and sketchy nature, as they have been hastily written in fulfilment of a promise to our Secretary that I would endeavour to fill, at short notice, any gap occurring in our succession of essayists. The subject has been exhaustively dealt with in an essay written by Mr. F. Smith for the National Veterinary Association, August, 1887, a paper which is worth careful perusal. In the Veterinary Journal for December, 1879, Professor Walley has also an instructive article bearing on this topic; but I do not remember that the subject has ever been discussed at our meetings. A great deal of the interest attaching to intestinal complaints is centred on the question of diagnosis, and I had some idea of suggesting that we should take the matter up, collecting data and information individually, and discussing it collectively; it is not a point to write upon off-hand, and I have not had the time to lay the matter before you as I wished.

The colon suffers in many ways. For instance, there is calculus formation, indigestion with tympany, torsion, impaction, inflammation, and others I might enumerate; but I purpose to chiefly confine my remarks to torsion and Enteritis. Professor Walley and Mr. Smith both advance the opinion that simple or uncomplicated Enteritis is of rare occurrence; that, when found, it is usually the result of other mischief, as displacement, twist, or strangulation. There can be no doubt that displacement, with torsion, of the colon is the producing agent of many cases of Enteritis (so described). I have examined the carcases of horses when a twist was certainly expected to be found, and have been disappointed to find only intense inflammation of mucous membrane (whether I observed discolouration of the peritoneal covering I cannot now remember). I have been somewhat perplexed, as I could not but think it strange that the symptoms witnessed *post-mortem* did not yield to the

treatment employed. In these cases probably there had been displaced colon, with partial strangulation, and a hasty, careless removal of the bowels from the abdomen had prevented its discovery by restoring their proper position.

I think we shall find that torsion of the colon is not an uncommon occurrence; a *post-mortem* examination is not made in every fatal case; sometimes, also, it is left for the slaughtermen to send a verbal message as to the condition of the bowels, and the answer has not infrequently been, "Twisted broad gut." Since October last I made an examination in two fatal cases, and found displacement and twist of the colon in each; they were both cases in which my attention was not requested till many hours after the preliminary attack, owing to the apparent recovery; that is to say, the medicine given by the owners so far alleviated the symptoms as to lull all their feelings of anxiety. What is the cause of these colic diplacements, torsions, and thorough reversals of positions? I may here mention that, in the two cases I alluded to, the double colon was so reversed that the pelvic flexure was placed forward towards the diaphragm, and in addition, in the second case, the pelvic flexure itself was completely twisted. Do the large bowels become displaced by the animals rolling? I cannot think so; it is true the colon is not closely attached to its surroundings, but we must remember that the whole contents of the abdomen are kept in close apposition by the abdominal walls, and with a pretty firm elastic pressure; so much so, that I think a change of posture, however sudden, would rarely alter their relative position. The displacement is brought about by exaggerated muscular spasm.

We certainly can account for torsion without the factor of rolling; most of us probably have had cases in which all the circumstances pointed to the probability that the twist occurred while the horse was in the shafts, driving the animal after pain was evinced having increased the spasmodic action of the bowels to a violent extent.

As far as twist of the colon is concerned, I have not remarked that it has been found in horses which have rolled and plunged to a great degree; most frequently these violent actions are seen in those cases in which we get periods of ease, and ultimate, sometimes rapid, recovery. Violent contorsions, then, of the bowel, and according to many, "rolling," are immediate or direct causes of displacement; the indirect cause is indigestion from various well-known agencies.

The colon also suffers from blocking or impaction from different causes, as calculi, tumours, and coarse undigested food; it may also become plugged by inversion of the cæcum. Mr. Smith related a case of this kind in his essay, but his statement was doubted, one speaker expressing the opinion that such an occurrence was very improbable and hardly credible. I can thoroughly support Mr. Smith, having witnessed just such a case. Subject, a bay pony, three years old; cause of attack, a large draught of water directly after arriving home in a heated condition. I extract the following description of the parts from an old case book: "Exterior of colon and visible part of cæcum dark-coloured from mortification, three parts of the cæcum inverted into the colon, where it lay a dense thickened mass completely occluding the passage. On laying open the colon, the visible interior coat of the cæcum was dark-purple in colour, its coats an inch thick from extravasation of blood." The pony lived five days.

In common with other portions of the digestive tract, the colon suffers from tympany. For this most painful condition, puncture by trochar and cannula will be found a valuable remedy.

How much tympany is due to windsucking? Is ever air drawn into the stomach? I cannot believe it. This strictly does not come within the scope of remarks on the colon, but as during the discussion on Mr. Smith's essay such divergence of opinion was expressed as to whether horses could swallow

air, I venture a few words on the point. We should reflect on the mechanism of deglutition; a substance is conveyed by voluntary effort to the base of the tongue, but the voluntary action ceases, the substance (food or water) is grasped by the fauces and passed down the œsophagus, air normally is present around the glottis and fauces. How could any portion of air be seized by the involuntary action of the parts and passed into the œsophagus? If it were possible to so control the stomach or œsophagus as to produce a tendency to a vacuum, as can be done with a syringe, then, and then only, might air be induced to pass down according to natural laws; but the elasticity and the power are wanting. In the thorax the ability to do this exists and, as a consequence, air enters the mouth; but it must pursue its course to the lungs where the indraught is originated; there is no power to guide it down the œsophagus. I admit that to any one watching an habitual "windsucker," it appears natural to suppose that air is swallowed, and there is a gulping noise produced. This, however, may be gaseous eructation. One speaker said, "Surely if a horse can pass air up he can draw it down"; but this is a contention I cannot admit, and I do not see the force of the argument. I have tried to show why air cannot be swallowed; but that gas can pass outward from the stomach is perfectly natural; possibly the position assumed by the "windsucker" renders the act easier.

Enteritis.—I have certainly become impressed with the idea that the inner coats of the colon do frequently suffer from inflammation without prior injury (as that from twist, etc.); and I would usually ascribe the cause to cold and exposure, or wet and chill. We frequently can elicit the information, when called to the case, that the horse showed signs of a cold for one or two days before the onset of abdominal pain. Inflammation of the mucous coat is not uncommon in association with thoracic complaints, and on *post-mortem* examination after cases of Pneumonia, I have sometimes found it to a surprising degree. It is evidenced by the unnatural appearance of the fæces, the slimy mucus, sometimes by the condition of the buccal membrane. Acute pain is shown when the muscular coat is implicated with the mucous; a typical case of this kind is unconnected with other disorder; exposure to cold or wet produces bowel inflammation; indigestion follows, with subacute abdominal pain, and retention of fæces for several days. The pulse remains about 44 or 48; the symptoms yield to appropriate treatment, and appetite returns; a feed of corn injudiciously given will generally cause a return of pain. Though it is often four days before the action of the bowels is restored in these cases, I consider aloes quite inadmissible. I would give no stronger aperient than four ounces of sulphate of magnesia twice or three times. These are the cases frequently classed as impaction and stoppage of bowels.

It may, of course, be said that we have here cases of partial twist, followed by recovery; the sequence being indigestion, spasm, displacement, tympany, subsidence of pain and relief of tympany, restoration of the position of bowel, gradual recovery of muscular tone in the colon, with passage of its contents.

What diagnostic symptoms have we to guide us in forming a decision or opinion as to the part affected, or the nature of the affection? This is the most difficult part of my subject, and one on which your opinions will be found most useful.

I am afraid that if we note the symptoms shown in colon affections, we shall not find them specially diagnostic; in milder cases, as partial torsion or subacute Enteritis, there is dull pain, evidenced by the facial expression, by looking round at the flanks, disinclination to lie down, or lying down and getting up again quickly; hard pulse, not very rapid; temperature about 103°; no passage of fæces after the little voided at first. In complete torsion of colon, the

symptons are more severe: alternation of hot and cold sweats; rapid pulse, becoming weaker; tympany; anti-peristalsis of bowel; striking at abdomen with hind feet; comparatively rapid sinking.

The symptoms shown in cases of obstruction from a calculus are somewhat similar, but of moderate severity at first, and may extend over many days—six, eight, or nine.

To those who have practised it sufficiently, a manual examination, through the rectum, of the position occupied by the various portions of bowel within reach, and of their condition, as well as that of the rectum itself, will be of valuable assistance. Looking round at the flanks is a common symptom, and not diagnostic; but when the nose is persistently kept round to one spot, it may be taken as a sign of great danger, as is almost any evidence of pain continued without intermission—for instance, the violent continuous pawing often witnessed during the later stages of fatal bowel disease. The pony I referred to as suffering from inverted cæcum was afraid to lie down, and for two consecutive days stood almost constantly in a particular position, its head elevated, so that the chin rested on a high part of the partition dividing the box from a stall.

Treatment.

The principal aim of treatment is to relieve the pain—so far as practicable, to remove the cause of pain; thus, carbolic acid is a useful agent to arrest decomposition of the food and formation of gas, and the trochar a good remedy for tympany when established. Opinions are greatly divided on the question of giving aloes; in most cases it will be beneficial, provided we have had charge of the case from its commencement, and give the aperient draught early. An argument against physic is that many cases recover after a dose or two of antispasmodic medicine, and can return to work earlier than if they had aloes; but I do not think it an argument of great weight. The aloes need not be given till there are indications that the first, or even the second dose, has failed to relieve; then I believe for every one case lengthened by aloes, at least one, perhaps more, would be shortened, while all the patients would be better for the dose and rest.

Still we are not, as a rule, called till some time after the commencement of the pain; and I have for several years gradually discontinued active purgatives, finding it safer on the whole. I have contented myself with small doses of sulphate of magnesia, and sometimes linseed oil. Stimulants are useful in the early stages, but later, when there is continuous pain and evidence of inflammation, I adhere to the practice of giving moderate doses of tincture opii $\mathfrak{Z}\,\frac{i}{iv}$, also subcutaneous injection of morphia.

A highly valuable adjunct is a flannel rug dipped in hot water and wrung out and bound round the abdomen, being then covered carefully by a sheet of mackintosh; warm water enemas should be frequently given, and the long tube recommended by Mr. F. Smith should be useful; a similar instrument in human surgery, "the O'Beirne's tube," is well spoken of in impaction of colon.

The administration of opium has been decried by good authorities, but I have not found any reasons to discontinue its use; its normal effect would be to retard the peristaltic action and induce constipation; but in the painful condition of bowel existing in these disorders, I am of opinion that moderate doses will have no effect of the kind. The action of most other medicines is greatly affected by circumstances in a similar manner.

I conclude my few pages with the hope that you will freely give your opinions and experience on the main points of this subject.

Mr. Adrian Jones could not agree with the essayist as to crib-biters not

swallowing air; if they did not do so how could they swell out so enormously in so short a time? He saw no reason why a horse could not swallow air as easily as it did its food.

Mr. HURNDALL, referring to the impaction of the colon, said he had lately experimented with sulphate of eserine, injecting one grain into the jugular vein. He had tested this drug in the case of two horses since their last meeting; one case was that of an aged brewer's dray-horse, which had had no action of the bowels for some thirty-six hours. Some two hours before he (Mr. Hurndall) visited the horse, the man in charge had, on his own responsibility, exhibited a six-drachm aloetic ball. He at once injected a solution of the drug, and it took effect ten minutes afterwards. He supposed there were sufficient fæces passed to fill two bushel measures. The other case was that of a van-horse which had had no action of the bowels for twenty-four hours; three-quarters of a grain of this drug was injected with almost precisely the same result. In each case, from ten to fifteen minutes after the administration of the drug, the horse spread out his hind legs, and there was a quivering of the large muscles, which continued about three or four minutes before there was an evacuation. In the first case the fæces were very loose, while in the case of the second horse they were of normal consistency. The action of this drug seemed to him very remarkable from the rapidity of its action. One point of interest with reference to the first case was, that about twelve hours after the action of the drug there was the usual result from the action of the ball which had been administered previously.

In reply to Mr Raymond, Mr. HURNDALL further said that he simply used an ordinary hypodermic syringe, such as is used in human surgery, with a small needle; his assistant pressed on the jugular vein with his fingers as low down as possible, and when that vessel was sufficiently distended he introduced the syringe, and the assistant having slowly removed the pressure of his fingers he discharged the syringe in the usual way.

Mr. CATON pointed out that eserine was one of the active principles of physostigma, which drug he had used on two horses by injecting it into the trachea. He used one drachm, which was considerably in excess of the quantity usually administered; but although its injection caused an enormous amount of unpleasantness and violent pain for nearly half an hour, no evacuation of fæces took place until twelve hours after its administration in either case. The worst kind of cases he had to deal with were cases of Torsion, about the cause of which opinion seemed to be divided. He was certain that strangulation of the intestines was more frequent in London than in country horses, and he could not understand why this should be. With one horse he tried to prove to the owner, who had a large stud, that rolling did not produce strangulation, and he had him walked about until he died. This horse was never off his legs; yet a *post-mortem* showed that his intestine was twisted. He was personally perfectly satisfied that rolling was not the cause of Torsion.

Mr. HURNDALL remarked that using physostigma was not the same as using sulphate of eserine, which was the active principle of physostigma in the form of a soluble salt, and when used by itself in this form, it acted in a manner peculiar to itself, and much more decidedly than physostigma operated; therefore he would warn members not to expect the same result from the use of physostigma. He would like to remark with reference to "Wind-sucking," that he considered the theory brought forward by Mr. Broad perfectly feasible, and it had suggested itself to his own mind whether the mucous membrane of the intestinal tract did not secrete gases; and that, by the administration of remedies to restore the mucous membrane to a healthy condition, it would obviate the difficulty due to the secretion of gas. This opinion is held by some members of the

medical profession with respect to the human subject, and why not, therefore, the lower animals?

Mr. HUNTING said that it appeared to him their greatest difficulty was forming a correct diagnosis in Intestinal Disorders. Mr. Broad mentioned six different conditions of the colon, and to those might be added many others; it was a moral impossibility to differentiate between some of these until they arrived at the *post-mortem* stage, which was a little late. (Laughter.) But impaction of the colon was in many cases diagnosible. He took it that those cases in which horses showed acute pain which was almost continuous, and which was not accompanied at first by a very great rise in the number of the pulse, were very suggestive of impaction of the colon; and he thought they could assist their diagnosis very considerably by a rectal examination. In all these disorders one ought never to neglect the examination per rectum. Having arrived at the pathology of their case, then came the question of treatment. Physostigma certainly did have an action somewhat resembling that just given by Mr. Hurndall. He was a very strong believer in the administration of aloes in all cases in which he was not satisfied there was strangulation, and he never hesitated, at the commencement of the case, to administer a five or six-drachm ball. He did not think it mattered whether they gave their aloes in solution or in a ball. From an experiment he made some years ago, he found that the ball was, at any rate in the ordinary stomach, dissolved within an hour. Again, they would find, as he did, there was a cessation of pain about half an hour after administering a dose of physic. Sometimes they were called to a case that they had not seen early enough, and they would not therefore like to resort to this treatment. He did not know whether he was right, but in such cases he administered nux vomica every three hours. He had found this treatment very efficacious in some cases. Then there was the cause of twist. It seemed almost impossible to arrive at the conclusion that it was the effect of rolling. Certain horses would roll about in all directions, lie on their backs and in all sorts of positions imaginable, and have no twist; at any rate, they did not die. He could not understand how it could be said that it was impossible for a horse to swallow air; it seemed to him that the muscles of the tongue and pharynx were just as capable of forcing a charge of air down, as the stomach was of forcing the air upwards; if the filling up were due to the decomposition of food, as soon as they got rid of one lot they would have another, and so on continually. He protested against Mr. Hurndall's theory of the secretion of the gases by the mucous membrane, and thought it was rather going out of the way for a cause when they had a fermenting mass present which accounted for it much easier.

Mr. ROGERSON then showed a large number of very interesting intestinal calculi, and gave the history in each case; he further remarked that he quite agreed with Mr. Caton, that rolling was not the cause of twisting of the intestines. During the last eight years he had a number of such cases come under his notice, and with the exception of two, all the horses were so secured as to be unable to roll.

Mr. SHAW also supported the view that rolling was not the cause of Torsion; out of twenty-six cases which had recently occurred in his practice, fourteen were kept tied up from the commencement of the attack until they dropped down dead. He thought that Torsion occurred more generally in mares than horses, and said that small ponies rarely suffered from twisted intestine. He quite agreed that the great desideratum was to be able to diagnose accurately; it was impossible to diagnose correctly until the horse had been ill for some time, and had shown a variety of symptoms. He did not know of an antispasmodic which would keep a horse quiet, for any length of time. He thought that some operation ought to be devised for the

relief of Torsion, and he hoped the College would lead the way. The operators at that institution did not operate under the disadvantageous circumstances which a private practitioner did.

On the motion of the HON. SECRETARY, seconded by Mr. RAYMOND, the further discussion on the subject was postponed until the next meeting.

Mr. ADRIAN JONES then submitted a model of the bust of the late Professor Robertson, which had been executed by Mr. Birch to the order of the students of the Royal Veterinary College, and suggested that a replica of the bust might be placed in the Royal College of Veterinary Surgeons. He also pointed out that he was in a rather unfortunate position, as he was pecuniarily responsible to Mr. Birch, and the promised subscriptions of some of the students were not forthcoming.

The feeling of the meeting seemed to be that the likeness of the late Professor was excellent.

SIDNEY VILLAR, *Hon. Sec.*

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE annual meeting of the above Association was held at the Queen's Hotel, Leeds, on February 1st, the President, Mr. W. Lodge (Dewsbury), in the chair, and there were also present the following members:—Professors Williams and Axe, Messrs. G. E. Bowman, A. W. Mason, McCormick, Geo. W. Carter, Jos. Carter, P. Carter, A. W. Briggs, G. Scott, J. Atcherley, J. W. Anderton, H. Pollard, H. Snarry, Thos. C. Toope, Joe Clarkson, M. Robinson, A. E. Hanson, Philip Deighton, Frederick Danby, Thomas Pratt, G. T. Pickering, G. H. Scott, Hy. Cooper, and the Secretary.

The following gentlemen were present as visitors.—Messrs. C. Phillips and J. D. Edwards, of the A.V.D.; Messrs. E. Faulkner (President) and A. Leather (Secretary), of the Lancashire V.M.S.; Mr. Longhurst (Port Inspector at Hull), M. Ustrupp (Port Inspector at Copenhagen), Dr. Goldie (Medical Officer of Health for Leeds), and numerous others.

The minutes of the previous meeting were read and confirmed.

The only letters of apology for non-attendance were received from Messrs. Bale, Fletcher, and Schofield.

The President then read his inaugural address as follows:

Mr. VICE-PRESIDENT and GENTLEMEN,—Allow me to thank you sincerely for having done me the honour of electing me your President for the coming year. I assure you that when I look around me and see so many gentlemen present, who are much more qualified to occupy such an important office, I feel almost afraid that I shall not be able to do credit to your choice, but I crave your indulgence, and trust that you will do your best to assist me in making our meetings pleasant and instructive to all parties. I have thought that it might not be out of place if I had to take a short review on the object of our Society, and on the profession at large, touching upon a few subjects which particularly interest us as veterinary practitioners. As I have no doubt some of you are aware, this Society was first founded by a few gentlemen in 1863. Some of them I am pleased to see are present with us to-day. Its object being to be the means of promoting a better feeling of amity and mutual consultation among members of the veterinary profession, and to elevate our social standing, to discuss scientific topics, and to further the interests of the profession at large, I am sure that all present will agree with me, that we members of 1889 owe a great debt of gratitude to those gentlemen, who, with great trouble and inconvenience to themselves, were the means of founding such a beneficial Society to the veterinary profession.

I have been a member of this Society for eleven years, and I have derived great benefit from attending its meetings, and I would take this opportunity

to ask all veterinary surgeons who are not members of this Society, and young practitioners especially, to become members, as they not only gain a great amount of useful information, but they meet a great many of their brother practitioners, which they would not have the opportunity of doing under any other circumstances; not only that, but it is the means of stimulating a good and friendly feeling amongst members from all parts. Gentlemen, if we do not respect each other how can we expect to gain the respect of the general public? we may try to elevate the profession in vain, unless we begin with ourselves, and I think, gentlemen, that we cannot do better than begin now at this meeting by helping each other to carry out our work in a systematic manner. I hope that you will not think me presumptuous in pointing out to you a few evils which are always liable to occur at such meetings as these; some may think them trivial, but in my opinion they are very important matters: I mean, for instance, members for want of thought may not at all times give their individual attention to the subject on for discussion; some may be talking to each other, to the great inconvenience of the gentleman introducing the subject, while others may, perhaps, introduce another subject before the one first introduced has been discussed upon. I know of at least one instance where this did actually occur, and perhaps it will not be out of place if I give you the particulars of this instance, and then you will see my reason for introducing this subject to you. A young practitioner had only been a member of a Veterinary Medical Society a short time when, in the course of his practice, he had a very difficult and peculiar case. He very naturally thought that he could not do better than bring it before the Veterinary Medical Society's meeting, which happened to be held on the following day, in the hope that he would be able to get some information respecting his case which would assist him out of his difficulty. He accordingly attended the meeting, laid his case before the members, and asked if anyone present would give him their opinion and assistance; but I am sorry to say that he never received any help, as some other gentleman was allowed to introduce another subject. The young member went home in disgust, and for some time did not attend another meeting. I sincerely hope that nothing of the kind will occur during the time I occupy this Chair as your President. I shall at all times most respectfully insist upon upholding the dignity of the Chair, not out of any feeling towards myself, but for the honour and credit of the Society. And now a few words respecting the veterinary profession. I would, in the first place, ask all veterinary surgeons at all times to uphold the dignity of the profession by their courtesy one towards another, although we may hold different opinions from them respecting any case or subject that we may be engaged in; not trying to outshine our professional brothers in the eyes of our clients, who, I am sure, will not respect us any the more for so doing. I would also ask you to keep up our fees. Some, on examining horses as to soundness, charge a guinea, while others only charge half-a-guinea. It is very unpleasant for any practitioner to examine a horse for a client, and when asked your fee tell him that it is one guinea; he expresses his surprise, and says that Mr. So-and-So only charged him half-a-guinea for the last one he examined for him. What is a practitioner to do? He must either take half-a-guinea or insist upon having his guinea; but what is the consequence if he does; he is told that his services will not be required any more, which puts many a practitioner into a peculiar position, as he perhaps cannot afford to lose his clients. I wish that some definite understanding could be arrived at, for if we were all of one mind the evil would soon be done away with, but this will never be remedied while some practitioners are ready to take any fee, no matter how small, so long as they get hold of the client. I am quite sure that it has a great tendency to lower the standard of the profession. With respect to a

few subjects which are at present occupying our attention, such as the inquiry that is now before us respecting what constitutes hereditary unsoundness in horses. I am of the opinion that no animals are fit for breeding purposes that are affected with Seedy Toe, Canker, Laminitis, Thrush, Navicular Disease, False Quarters or Weak Feet, Side Bone, Ring Bone, Splints, Lymphangitis, Grease, Curb, Thoroughpin, Bog Spavin, Bone Spavin, Shivering, Stringhalt, Roaring, Whistling, Broken Wind, Grunting, Ophthalmia, Gutta serena, Hernia, and Eczema. If we wish to get a better and sounder stamp of horses in our country we cannot be too particular in choosing our sires and dams, for, in my opinion, like, to a very great measure, produces like. I wish that the Government of this country would make it worth the while for our farmers to keep their best brood mares, instead of selling them to the foreigners to take abroad. You all know that the foreigners are able to give a much greater price for any good animals than our English buyers are. Why should this be allowed? surely we are as wealthy in old England as any other nation, and I am sure it would be of great benefit to the country at large if the Government had to buy a few first-class entire horses, and place them in different parts of the agricultural districts. I should also advocate veterinary surgeons being appointed as veterinary inspectors to examine mares before being allowed to breed from. I am sorry to say, if any one has got a mare too old or lame for much hard work, she is put to breeding purposes; therefore it is no wonder that we get so many diseased animals. I think it is also time the breeding of cattle was seen to, as I am afraid we shall soon be as poorly off for good sound cattle as we are for horses, which will not only affect us in our meat markets, but will also affect the health of individuals all over the country. You are all well aware what a great deal of our dairy stock are affected with tubercular disease. It is my opinion that cattle so affected are not fit for human food, especially when it has got beyond a certain stage. Then, look what a number of animals that are kept for milking purposes are nothing but skin and bone from being affected with this disease. Yet the owners are allowed to sell the milk that is obtained from them, which I am inclined to think does more harm to the consumers than even eating the flesh. I certainly think that all animals suffering from tubercular disease should be brought under the Contagious Diseases (Animals) Act, and compensation allowed to the owners, but the difficulty arises, how are we to diagnose the disease in its first stages? I have heard it said that you can do so by the aid of the thermometer. Some have gone so far as to state that if the temperature rises two degrees above the nominal stage you may safely say the animal is affected with Tuberculosis; that is not my opinion, as I am sure you all know that you may go into a mistle and examine twenty head of cattle, and you will find the temperature to vary from one to three degrees, and even more, and all the cattle may be perfectly healthy; not only that, you may drive a beast about in the yard for a short time, and I venture to say that the temperature will have increased during that time, even to a great degree. I should not consider that any Inspector of Meat had done his duty if he passed the carcase of a beast affected to any great extent with Tuberculosis. Then there is another matter which I should like to draw your attention to, but I trust that I am not trespassing too much on your patience—that is with regard to the hygienic arrangements of our cow-sheds. I think that it is time some steps were taken to ensure better sanitary arrangements in some of our dairy sheds and farms. It must have a very bad effect on the milk where a lot of cows are kept in a very warm mistle, while not a single breath of air worth speaking about is allowed to penetrate the place, besides the badly drained places, where some of the cattle are plastered up to the udder with dirt. What is more likely to pro-

duce disease in the human being than milk from such dens of disease as those? Would it not be beneficial to the general public if such places were properly inspected and kept in a cleaner and purer state? I also think that some steps should be taken to prevent the spread of disease by milk being carried from dairies where infectious disease exists. We all know that there is nothing more liable to carry disease from house to house than milk. To prevent any such evil, I would advise all local authorities to compel milk vendors to have a separate place away from their house for the purpose of measuring their milk. I know that in some parts a law does exist compelling all cow-keepers to register their cowsheds; but this, I am afraid, is carried out in a very loose manner, simply because men are appointed as inspectors who, in my opinion, are not suitable for that office. How is it that we veterinary surgeons are passed over in the manner in which we are? even in the matter of cattle inspection under the Contagious Diseases Act, we have to be first called in by the police. I think it would be much better if cases were reported to the veterinary inspector in the first instance, he having the power to call in the aid of the police to see that his instructions are carried out to prevent the spread of the disease. I should also like to say a few words respecting the inspection of meat. I cannot understand why empirics should be appointed meat inspectors instead of veterinary surgeons. I think it is our duty for the good of the general public to call the attention of local authorities to the existence of this evil, and to urge upon them the great necessity for appointing properly qualified persons as meat inspectors; and who, I ask, are better qualified than veterinary surgeons to hold such an important office? If the public did but know what wretched meat is brought into some of our public markets and sold for human food, they would, I am sure, be anything but satisfied with the present existing arrangements. (Applause.)

On the motion of Professor WILLIAMS, seconded by Mr. FAULKNER, a hearty vote of thanks was accorded to Mr. Lodge for his admirable paper, and it was decided that there should be a discussion on the various points raised, at the next meeting.

Professor AXE delivered a lengthy address on the "Operation of Laryngo-Tracheotomy," and in the course of his remarks said: No apology will be expected from me in placing before you, as far as my ability goes, a subject which has recently caused much discussion, and to which great attention has been directed during the past few months. It will be in the memory of each and every one of you that a short time ago it was suggested by Dr. Fleming, both privately and, I believe, through his agency publicly, that great advantages to our horse population might be derived from an operation, the precise nature of which was not at that time expressed. We have, however, by communication with Dr. Fleming, been able to acquire a knowledge of the precise nature of the operation as it was in the first place suggested. It has, as you know, for its object to alleviate horses from that disabled condition which arises out of the disease known as Roaring. How far the first suggestion of Dr. Fleming succeeded we will not enter into now, but we will presently trace the operation as it was first suggested, and follow it through its various modifications, and leave it as it remains at the present time. No apology, I am sure, need be offered for any step which may be taken to contribute to the advance of comparative surgery. One cannot help but remember that laryngotomy is an operation which for many years has been performed to a greater or less extent by Continental operators, and I feel it as a reproach to some of us —not particularly to myself, but to the profession generally—that we have so tardily followed in the footsteps and endeavoured to emulate the examples of those who have declared from time to time that benefits did accrue from

this operation in relation to Roaring. I think we shall admit that we were slow to recognise the services of others, and, above everything, to follow their example. With regard to the nature of Roaring, it is not my intention to occupy your time by entering into that question, any more than to say that it appears to consist—the sound appears to arise out of the displacement of a certain part of the mechanism of the larynx, resulting in the diminution of the aperture, and consequently an obstruction in the process of respiration. That disarrangement might be subject to another condition. It might consist of the diseased condition of the arytenoid cartilage and the relaxed condition of the vocal cord, by which the orifice, the laryngeal orifice, becomes diminished, and consequently an impediment put in the way of a free and efficient respiration. It would be desirable, of course, on going into the treatment of an affection of this kind to admit the cause and endeavour to remedy the effect; but inasmuch as our advances in therapeutics have not enabled us as yet to understand in any intelligible sense the causes giving rise to Roaring, we have to take advantage of any method or means of removing the effect of the cause from which the disease arises. We have endeavoured for many years to remove this effect in a very palliative way by making an artificial orifice in the course of the trachea, and introducing tracheotomy tubes, and so affording temporary relief to our patient. The aim and object of the operation which has been brought so forcibly before us by Dr. Fleming, is not to make a temporary improvement in the condition of our animal, but to effect a permanent condition of improvement. How far that has or is likely to succeed is told us by Dr. Fleming himself, and he is reponsible for the statement. He assures us on a very large experience, which should command credit and trust from us, that no less than seventy horses have been operated upon—those employed in the service of the country—and that ninety per cent. of those animals have been permanently cured.* Starting with that proposition, I think we are warranted in using our every endeavour to not only generalise this operation, but to consolidate it; and, if possible, to improve it. It would be idle on our part if we were to sit down and be satisfied with what has now been done, because, as I have already said elsewhere, that which might seem to be an efficient operation to-day, may be to-morrow voted a vicious and unnecessary mutilation. I look forward to the time when we shall regard the operation of to-day as a mutilation and violent dismemberment. I think there will be forthcoming some means of effecting the end we have in view by very much less heroic methods than those I am about to describe to you now. It might be thought I should endeavour to enlighten you upon the history of the operation of laryngo-tracheotomy—it might be thought it would be a necessary part of this subject that I should tell you where the first discovery of it was made, or who first initiated the movement on the Continent; who first applied it to the disease of Roaring; how it came by degrees to the operation as we now find it. Why, gentlemen, it is a matter which has no interest for me. We will leave those who care to know it to fight it out for themselves. It is a matter which can be fought out in the drawing-room, but it is not one which it is desirable we should devote any great amount of attention to. What is of more consequence to us to know is, Is the operation capable of being performed with safety to the life of the animal? Is it efficacious to the disease to which it is applied? And, last, but not least, has it opened to us a field in surgery by which we may benefit in other directions than in respect to this operation for Roaring?

Professor AXE then proceeded to describe the operation as it is performed at present, and a description of which has appeared in the different journals

* This has never been so stated; it was anticipated that in time ninety per cent. would probably be cured.—ED. *V. J.*

for February. He concluded as follows: Now what is the result of all this? I am not in a position to tell you fully, but I am very hopeful. At present my cases which I have operated upon number about a dozen, but the time has hardly expired when we should consider it fair to judge as to the relief which has been afforded to the animals. I did venture, after an animal had been operated upon five weeks, to submit him to a gallop, and I was encouraged very much to hope that the operation would prove a success. When I say a success, I don't mean to imply that the horse will be enabled to perform every kind of work—sharp, fast work—without showing some abnormality of sound during work. My impression is that the operation will be capable of rendering useless horses useful, and if it does that I think we may claim for it success. (Hear, hear.) I fear that people will be led to expect too much of it. We will say that a man in Yorkshire desires an animal of his to be operated upon. The veterinary surgeon does as he is requested, and returns the animal. The owner will expect, of course, that there will be a diminution of the respiratory sounds, that the sounds will be abnormal, and that as time goes on the animal will be sound. One can hardly expect that, in all conscience. It is not to be expected; but I say if we can accomplish that one object—rendering horses which are absolutely useless, useful for the rest of their lives—then I think the operation is a success. I do not claim for the operation success simply on those grounds. We must take a wider view of it. I look upon it more than as a reflection upon the profession that we have not adopted it earlier, I look upon it as applicable where any laryngeal disease exists; we have learnt that the larnyx is not that sanctuary which we have been led to regard it, and that it is as approachable as any other organ in the body, and it will now become a playground for us. We can open it and examine it, and if there is anything wrong we can put it right, as far as surgical science will allow us. Therefore I consider it is a great jump, and likely to prove in many cases of the greatest benefit. (Hear, hear.) There are other diseases to which the operation can be applied. All these things now are within our approach. I do not know there is anything more to say to you, except that in the course of the healing process it is desirable from time to time, after the first seven days, and after thirteen days, say, to cast the animal and inspect the interior of the larynx by means of the electric light. I do not claim anything for the operation except to have endeavoured to explain it. (Hear, hear.) I am not in a position to speak of the prospects of this operation for Roaring, but I have the strongest reasons to hope that it will prove of great benefit to our horse population. (Applause.)

Professor WILLIAMS said he was sure they were all greatly obliged to Professor Axe for the able manner in which he had laid the subject before them. He had stated the subject very carefully in all its bearings. He had had some experience of the operation. He was present at Newcastle when Professor Smith performed the operation as it first existed, viz., the removal of the vocal ligament, and the vocal angle of the arytenoid cartilage. That operation he considered a mistake, as it could not possibly in any way tend to the cure of Roaring. Shortly after the Newcastle meeting he had an opportunity of operating upon a Roarer, but the horse was not a bit better. After a month's interval he removed the whole of the arytenoid cartilage and the vocal cord. The case was now in hospital, and the animal was very much better. Before being operated upon, the horse was so bad that he could not go the length of the yard without giving signs of suffocation. The last time the animal was tried he went round the yard a dozen times, and showed very little distress or difference in his breathing. The sound, however, to a greater a less extent, was still there, and he was in the same position as Professor Axe; he would not give an opinion on that operation,

except that he believed, by its means, animals that were useless might be made serviceable. He did not expect anything more, but at the same time he thought there would be modifications made in the operation, so far as regarded the larynx. There would, he had no doubt, be endeavours made to bring about a contraction of some parts of it, so that the opening would become increased and fixed. He reminded the meeting that they were but just at the commencement of this subject, and it was quite possible that in the future, somebody would be able to describe at a meeting such as that, an operation for the cure of Roaring which was a complete success.

Mr. GEO. BOWMAN (Leeds), said he had looked forward with a great deal of interest to the address of Professor Axe, because he felt if the operation was a success, it would elevate the standard of veterinary surgery very considerably. As to making a horse useful, why, he said, if a horse was of no use and could not work, he was not worth above a £5 note; and even if such animal was operated on and still made a noise and did not work quite naturally, the operation did not look a success. Taking the case of hunters and race-horses, he thought if an animal could not run any better, or carry a man more satisfactorily, after the operation had been performed, then it was a failure.

Mr. FAULKNER said he saw the operation performed in Newcastle, and as a surgical operation, it was brilliant indeed. It showed how easily the larynx was accessible to surgical operation, and he believed the operation, as an operation, gave pleasure to all who witnessed it. Professor Axe had stated the case carefully and minutely, and was very cautious as to what he said was the result and upshot of the operation. One of the special features which struck him, was that Professor Axe demonstrated how easily they could get into the larynx, and how very careful they should be when they got there. The whole sum-total of the operation, to his mind, was that it was purely a matter of a monetary consideration. If they had a hunter under hand it was no use recommending that the operation should be performed, if they were not convinced that satisfactory results would follow. They wanted to see how they stood, what was likely to be the result, and unless they were sure of some definite result, they would not like to put the owner to the expense, the trouble, and the uncertainty of the operation. Professor Axe had said he did not know now far the operation would be successful, but that an animal that became useless would be rendered useful for certain purposes, and, on the other hand, they had the statement from Dr. Fleming, who said seventy cases had been operated upon and ninety per cent. were successful. Were those ninety per cent., he (Mr. Faulkner) would like to know, a success, or were they a partial success; were they perfectly right, or were they partially right. That was what they wanted to know, and what they must know; they must have some definite statistics to go on before they, as practitioners, adopted the operation and advised their clients to adopt it. (Hear, hear.)

Mr. PHILLIPS (13th Hussars) said he was glad to have had the opportunity of listening to the interesting address by Professor Axe, and he was surprised to hear that Dr. Fleming had been successful in 90 per cent. out of seventy cases. It was evidently time he began to operate upon some of the horses of the 13th Hussars.

Mr. G. CARTER said there was no doubt about the nicety of the operation, and it might serve to decrease the amount of noise a roarer emitted, but where a horse was a bad roarer he was not worth much, and if the operation was to do away with the noise altogether, to enable the horse to work as he would do if his larynx was unaffected, and as he did before there was any disease of the muscles of the larynx, then the operation would be such as he thought they would feel themselves justified in adopting. If, on the other hand, it only

altered a horse in such measure as to make him a less roarer than before, he (Mr. Carter) questioned whether the operation would be adopted by the profession generally. One result of the operation, however, was to show they could open the larynx and examine it when necessary. The momentous question in respect to Professor Axe's address was, Whether their clients would go to the expense of the operation, seeing that they could not guarantee a complete cure. Speaking with regard to the ordinary tampon-cannula tube, Mr. Carter said its insertion was so simple, the animal had to rest such a short time, and could work with it in; it was such a slight expense to the owner, and accompanied by a total absence of roaring, that if the operation they had heard so ably described was only partially successful, the tampon-cannula tube was superior to it for the purpose of rendering useless horses useful. He moved, "That the best thanks of this meeting be given to Professor Axe for the very able and instructive address he has given us this afternoon."

Mr. J. E. SCRIVEN, Tadcaster, seconded this.

Mr. MASON, Leeds, said he had seen the operation performed in London, and considered it was one which required a good deal of care. In performing it a good deal of assistance was required, and to his mind it became a question of £ : s. : d. whether their clients would care to expend the necessary amount of money. He had found that some clients did not care about parting with their money, even though assured of a great deal of success. (Laughter.)

The resolution was then put and carried unanimously.

Professor AXE, in reply, said: I can only say, if it has given the friends and members of this Society as much pleasure to listen to the few remarks I have made as it has afforded me to give them, you have derived very considerable pleasure indeed. It has been suggested that this operation is a question of monetary consideration, that it was a question of £ : s. : d. There are two lines to look upon the question, and if we regard it from a monetary point of view well and good. I look upon it from a surgical point of view. It has struck me, when it is suggested that a horse of the value of £5 is not a subject for the operation, that that is precisely the animal best fitted for it. For this reason, if we can hold out a hope of restoring that animal to a perfect state of soundness, we can confer to that animal the greatest amount of relief. The question of relief appears to me to be the foremost question in this subject. There are many horses that are quite disabled from work so long as this disease exists. If you remove that, the animal can perform the ordinary duties of an ordinary horse, and the only thing you can complain of is that he makes a little noise in his fastest paces. The horse which is only worth £5, if for the remainder of his life he can be made serviceable, is the animal you can confer the most benefit upon. I have operated upon horses that were not bad roarers, and I should not have expected to get the same amount of credit from them as from inveterate roarers. Of course, it is a question for you, as veterinary surgeons, to advise your clients on having the operation performed, having regard to £ : s. : d., as has been suggested; but if I were consulted as to the desirability of selecting between a horse that was a slight roarer and between a horse that was a bad roarer, I should say, Give me the bad roarer by all means; I can make an improvement in him, and I might damage the other and make a worse job of it. We are putting the cart before the horse when we say we should give our preference to those animals which are only slightly affected. It is not intended that the tampon-cannula tube shall be abandoned. It is a question whether the tampon-cannula tube is more applicable to a case coming into your hands than an operation of this kind.

The next business was the selection of a candidate for nomination to the Council.

Mr. JOSEPH CARTER declined to seek re-election, on account of his advancing years,

And on the motion of Mr. BRIGGS, seconded by Mr. SCRIVEN, it was unanimously agreed to nominate Mr. George Carter, of Keighley, for election.

It was also decided that the President and Secretary should co-operate with the Lancashire and Midland Counties Associations to endeavour to ensure his return.

THE ANNUAL DINNER.

At the conclusion of the meeting the members of the Association, together with a number of invited guests, sat down to dinner, the President, Mr. Lodge, occupying the chair, and the Vice-President, Mr. Bowman, the vice-chair. The repast was of an extremely *recherche* character.

After the usual loyal and patriotic toasts,

Mr. PHILLIPS, responding on behalf of the "Army, Navy, and Reserve Forces," said the Army Veterinary Department had been brought more prominently forward in recent years by the authorities. He was afraid his brethren outside the service had the opinion that army veterinary surgeons had an easy, jolly time of it. (Hear, hear.) It was a case of "hear, hear," because it was "here, here," only that it was anything of an easy, jolly life. (Laughter.) It was "here, here," for a short time, but when they went on active service it was far from being a jolly easy time. He maintained that the department, as a whole, was in a weak state, and referred to the movement for the formation of an Army Veterinary Reserve force. The rate of pay offered to the junior members of the force when they took the field might look tempting, but he thought those who had joined scarcely understood the amount they would have to expend. He believed after a six months' active service the reserves would find they had not many pence in their pockets over of what they had received. He believed the only way to remedy this state of affairs would be to grant the Reserve an annuity.

Mr. PICKERING (York) also responded, and said he did not think the Reserve Army Medical Department had been a success, and felt convinced that under existing arrangements, the Army Veterinary Medical Department would be characterised by no greater satisfaction.

The name of Mr. Edwards (10th Hussars, York) was also coupled with the toast.

The PRESIDENT gave the toast of "Royal College of Veterinary Surgeons."

Mr. JOS. CARTER, in reply, said for forty years he had been a member of the R.C.V.S., and he went on to sketch briefly the struggles and troubles attaching to the early history of the College. They had now, however, a College of their own free from debt. (Applause.) He was sure the College did all it could to bring the profession up to the highest possible level, and that the examiners had given every satisfaction.

Mr. BRIGGS (Halifax), in submitting "The Examiners," said he believed the examiners were, as a rule, a body of honourable men, and that at the present time they had the most able Board of Examiners it had ever been their lot to have in the profession. Students, as a rule, regarded the examiners with a certain amount of awe, and he felt convinced that in some cases that had not been inspired without good cause. (Laughter.) The subject of the appointment of examiners had of late caused some unpleasantness, and he felt that the time had come when the examiners who were paid should resign, and make room for those who were not.

Mr. T. FAULKNER, proposing "The Yorkshire Veterinary Medical Society," said he was sure they were all with him in wishing the Society every success and continued prosperity. (Applause.) If they took that day as an instance, he thought they must regard it as being in a very healthy condition. From his point of view the afternoon had been one of great interest, whether they

looked upon it as scientists or general practitioners, and the social portion of the gathering, indeed, had left nothing to be desired. (Laughter, and hear, hear.) It was not the first time he had had the pleasure of receiving the hospitality of the Yorkshire Society, and he sincerely hoped it would not be the last. Next to Lancashire, he believed the Lancashire fellows appreciated Yorkshire most. (Hear, hear.)

The PRESIDENT, in returning thanks, said they were obliged to Mr. Faulkner for his kind wishes and warm expressions of regard. Their Society had done good work in the past, and during his year of office he should use every possible endeavour to render the educational part of their proceedings as instructive and efficacious as possible, whilst leaving no stone unturned to strengthen their combination, and increase the good feeling existing among the practitioners in their country of broad acres. (Cheers.)

Mr. G. CARTER proposed "Veterinary Schools." He said they might take it that they were going to have a generation of veterinary surgeons far superior to the veterinary surgeons of the past. That was what they desired. They desired that the veterinary surgeon of the future should be a better educated and more able man than those who had gone before. He referred to the able services rendered as teachers by Professor Axe in London, and Professor Williams in Edinburgh, and said he could only give unqualified praise to all the teachers he had come in contact with. (Cheers.)

Professor WILLIAMS said he would rather prefer to appear before them that night not as a teacher, but as one of themselves, for he had the honour and privilege of being one of the fathers of the Yorkshire Society. (Hear, hear.) Five of them instituted the society; and he was sorry to say the minority—Messrs. Cuthbert and Broughton—had joined the great majority. Another, Mr. Dray, he saw the day previous in London. He was now a very old gentleman, but he always was a gentleman, and enjoyed the respect, not only of that society, but of the profession generally. (Hear, hear.) He (Professor Williams) was glad and proud to think that Mr. Jos. Carter was with them that night—(hear, hear)—and that they had selected his son George as their nominee for member of the Council. He had known him many years, and would support him to the utmost of his ability in the election. (Applause.) He (Professor Williams) had the honour of being the first secretary of their society, and he was proud to see, after twenty six years, such a meeting as they had had that day. (Cheers.) He went on to refer to the valuable testimonial they presented him with when after some years he had to remove from Leeds to Edinburgh. His early struggles in Edinburgh were of no light description. For many years it was as the witches had it in *Macbeth*, "Double, double, toil and trouble," and although he was now only a representative of a private school, that school was a success—(cheers)—and the success of that school was due in a great measure to the support, the warm support, he had had from Yorkshire and Lancashire. (Applause.) He had over and over again realised the truth of the saying, "A friend in need is a friend indeed," for in Yorkshire and Lancashire they had been friends of his indeed. Professor Williams concluded in the following words, "I come here this evening, not so much as a teacher, but as one of yourselves, and I thank you most sincerely from the bottom of my heart for the kindness you have extended towards me during the struggle. The struggle is over, gentlemen—(cheers)—and I believe the end will be a calm and peaceful one, and that has been mostly brought about by your generous support. As a teacher I have endeavoured to do the best for my students, and if I have had to work hard both night and day to make both ends meet, I am proud to say that I have at last accomplished what I set myself to do; and that it has been in no small measure owing to the support of this society, and of the neighbouring county of Lancashire." (Cheers.)

Professor AXE said if there was one thing he was more proud of than another it was to visit the Yorkshire Society, and endeavour, as far as in him lay, to render some account of the work which formed the occupation of their daily life. He looked upon the occupation of teacher as the highest ambition of his life. (Hear, hear.) It was only 130 years since the whole of Europe was destitute of a teaching school with regard to veterinary medicine. When they looked back to the great amount of loss this country and other countries sustained for the want of the ready help which was now available to the owners of animals he thought they had a deal to congratulate themselves upon. (Hear, hear.) It was not long ago since the most humiliating excesses of inhumanity were perpetrated by what were then the representatives of their profession, and it was gratifying to know that the steps which had been from time to time initiated by the schools had lifted up the profession to the position it now held. (Applause.) To go back to the Cattle Plague, they must recognise a period when veterinary medicine had made very feeble advancement. It was subsequent to that time that the new school fought, and learning began to be disseminated through the profession. The old members of the profession coming in contact with the new lights of the profession began to feel themselves humiliated, because the schools had set forth new doctrines, new ideas, and new methods, and they felt themselves compelled to seek the counsel of the youth from the schools. It was to that new light that Veterinary Associations of this country owed their existence. He must say as a teacher in one of the schools that a great deal of credit was deserving to be recorded in favour of the schools. He did not say that any individual school had contributed to the success of veterinary medicine more than another, and he believed that schools were never on better terms with one another than they were at the present time. (Hear, hear.)

Mr. TOOPE proposed "The other Veterinary Medical Societies," and in reply Mr. LEATHER said there was a scheme on foot for the amalgamation of the various societies of England for the purpose of mutual protection, but it was not yet fully developed.

The other toasts were "The Visitors," proposed by Mr. MASON, and responded to by Mr. LONGHURST (Hull) and Dr. GOLDIE (Leeds); "The Ladies," proposed by Mr. P. CARTER, and replied to by Mr. JOE CLARKSON; and "The Secretary."

W. F. GREENHALGH, *Hon. Sec.*

ROYAL SCOTTISH VETERINARY ASSOCIATION.

A QUARTERLY MEETING of this Society was held in the library of the Royal Veterinary College, Edinburgh, on the 23rd January, 1889.

The PRESIDENT (Professor Walley) occupied the chair.

The following members were present:—Messrs. Cassells, Burnett, Jones, Reid, jun., Grossart, Greig, Macfarlane, McArthur, A. Baird, Fairbairn, and Professors Baird and McFadyean.

The minutes of last meeting having been read and approved of, the following gentlemen were nominated for election:—Messrs. Anderson, Young, Harle, Bird, Corwen, and King.

The following gentlemen were then elected as office-bearers for the ensuing year:—Andrew Reid, Esq., Auchtermuchty (President); Messrs. Campbell, Kirkcudbright; Fingzies, Lochgelly; and Cassells, Lanark, as Vice-Presidents.

Mr. Fairbairn, Cupar, was re-elected as Honorary Secretary and Treasurer.

The PRESIDENT then related a case of extensive Septic Cellulitis in the off foreleg of a cart gelding, as the result of a prick. After the removal of some

horn, pus was formed and evacuated; its liberation was followed in the course of two or three days by sloughing at the coronet, this healing up with free granulations, which looked beautifully healthy and devoid of fœtor; lameness had passed off, fever subsided, and all appeared to be progressing favourably when the leg swelled, the swelling rapidly extended to the subpectoral and subscapular connective tissue, and in course of a few days the limb became immobilised by the swelling, which was enormous, excessively hard, and exquisitely tender, the sufferings of the patient being extreme. In a few days the swelling had reached it height, imperfect fluctuation being detected. A free incision was made, and a quantity of purulent matter, having an abominable fœtid odour, evacuated. Two days after, a similar condition was detected at the posterior part of the leg, which was freely incised. The necrosed cellular tissue could be felt for a considerable distance along the subscapular region, and in the course of about ten days as much as one pound weight of dead tissue was removed. After removal of this tissue, the wounds rapidly assumed a healthy condition, swelling and febrile symptoms subsided.

Treatment adopted was continuous fomentations and the occasional application of stimulant and antiseptic liniment to the whole limb, sloughing parts thoroughly syringed with antiseptics, necrosed tissues being removed as they became partially detached from the healthy. Constitutionally, nutrients, stimulants and antiseptics were administered.

Three points of interest in this case were that Cellulitis became arrested in the subpectoral and subscapular tissue, that neither septic infection nor septic intoxication resulted, and that the inflammation spread rapidly up the limb, without producing any destruction of tissues below the elbow.

The PRESIDENT then showed specimens of œsophageal disease in sheep, which occurred in the practice of Mr. Harle, M.R.C.V.S., Coldstream, several sheep of the flock having died suddenly. The lesions appeared to be of a diphtheritic character.

Professor MCFADYEAN exhibited microscopical specimens of equine Tuberculosis and Actinomycosis.

Pleuro-pneumonia and Tuberculosis.

The adjourned discussion on the report of the Departmental Committee on Pleuro-pneumonia and Tuberculosis was then resumed by

Professor WALLEY, who began by remarking that the occurrences of the last few weeks in Edinburgh and its neighbourhood, pointed to the existence of Pleuro-pneumonia in districts where it was little suspected. Edinburgh was sometimes charged with being the greatest disseminator of that disease; it should rather be called the greatest receptacle of it. The number of cows which came into the city was enormous, probably greater than that which entered any other city in Scotland or the kingdom. He would be within the mark in stating it at 100 cows every week, brought in for dairy purposes. Adding these to the ordinary direct purchases it made a very large influx. They came from every district in which dairy cows could be had, as Cumberland, Westmoreland, Lancashire, Yorkshire, and the northern English counties, and those in the south of Scotland. The bulk of what came from Scottish districts were, however, from Ayrshire and Lanarkshire, though there were also supplies obtained frum the whole of Scotland. A large and of late increasing number came from Ireland. This influx from all districts laid the Edinburgh district open to the introduction of the disease, probably more than any other city in the country. Glasgow, by getting its supplies from definite sources, mainly Ayrshire, was more favourably situated. The universal outbreak of disease in Edinburgh to which he had referred pointed to the necessity of instituting vigorous measures for the discovery of

its existing centres. This should be done by an efficient system of inspection, by making the notification of all forms of disease compulsory, and the abolition of all private slaughter-houses. As he had remarked in his address at the opening of the College in October, and long prior to that time, he thought, and now more strongly than ever, that compensation should be an Imperial burden. It was a great hardship that a community like that of Edinburgh should suffer for the sins of those for whom they annually paid immense sums in exchange for their contaminated dairy stock. He had attributed many previous outbreaks to cows brought in from Ireland and Cumberland, and from a knowledge of the facts connected with the present outbreak he was more than justified in saying the centres of the disease existed in these districts of which the authorities had no cognisance. In many cases the outbreaks were attributable to the so-called recovered cases of the disease, many of which probably still existed as remnants of the old system of dealing with the disease, and of undiscovered outbreaks. Several such cases had occurred in Edinburgh. He had the opportunity once more of directing their attention to a sequestrum which he had removed from the lungs of a bullock a few days ago, and in which a communication existed by means of a fistula between a large bronchus and the cyst cavity. The specimen was removed from the lungs of a bullock, one of a lot of eight sent from Fife to the Edinburgh slaughter-house for slaughter on account of their having been in contact with a diseased animal. It was a repetition of the old story, and another proof of the accuracy of a theory which it had been his privilege to promulgate some fifteen or sixteen years ago. It emphasised the dangers of playing with such an insidious malady, and of shutting their minds against the teachings of pronounced pathological and clinical facts. In reference to Tuberculosis being dealt with as a c ntagious malady he could only adhere to his repeatedly expressed opinions on the point, and he thought that in view of its extended prevalence, the delay in dealing with it as such was alike incomprehensible and indefensible. It was of sufficient importance when affecting the bovine and porcine species mainly, it was of vastly greater importance in view of the fact that its extension to equines was so abundantly proved. It was a disease to which no quarter should be given; its extermination was a war of races. Whether, by supineness or other faults equally reprehensible, the lower was still to be allowed to retain the mastery over the higher organism remained to be proved.

Professor McFADYEAN said it was a fact at which everybody who had the interests of stockowners and the public at heart would feel gratified, that the measures at present in force promised to lead to the ultimate and not very remote extermination of Pleuro-pneumonia. There was already a satisfactory diminution in the returns of the disease, and they were enabled to hope that with vigilance on the part of Local Authorities a very few years would see the last of Pleuro-pneumonia in these islands. The present methods of dealing with it were of considerable importance. It was hard upon Local Authorities that they should be mulcted in very large sums for compensation through the laxity of a neighbouring Local Authority or stockowner in a neighbouring district. If penalties were always exacted in cases where infringements of the regulations were proved, there would be fewer cases of dishonesty in the way of destruction of animals that had been "in contact" than there was reason to believe was the case at present. Regarding Tuberculosis, he was one of those who believed that the public at large, and to a certain extent the medical profession, was at the present time in a condition of unnecessary panic. That might be described as the first stage of those who had brought under their notice for the first time that human Phthisis and Bovine Tuberculosis were identical, in that they were caused by the same baci!lus, and it seemed almost natural for them to jump to the

conclusion that many cases of human Phthisis were of bovine origin. He was one of those who cherished the belief that that was not the case. Instances of human beings becoming infected from the Tuberculosis of cattle were extremely exceptional, and the question of the consumption of tubercular meat could hardly be described as an extremely important one from a public health point of view. It was different when one came to consider the consumption of tubercular milk. The two things stood on a different footing. Actual tubercular lesions in the parts of a carcase consumed were exceedingly rare. The existence of tubercles in the muscular system of a bovine animal were so rare that he never had seen an undoubted case. It was well that people did not eat their meat raw; indeed, it was consumed in general in a state very far removed from that. But even admitting that there might be bacilli in a beafsteak, if it was well cooked he did not think there need be any hesitation in eating it. Experimental pathology supported the view he had stated. There were on record almost innumerable cases of experiments in which animals affected had been inoculated with tuberculous meat; that was, inoculated of set purpose or fed with tuberculous flesh. In many cases they were not even fed, but actually inoculated with what were relatively enormous masses of meat juice taken from tuberculous animals. They took raw meat juice from animals that were undoubtedly affected with Tuberculosis in some of their viscera, and thus caused Peritonitis by inoculation in an animal so very susceptible as the guinea-pig. Thirty to forty such experiments had given only one single case in which the animal became tuberculosed. The question of the occurrence of Tuberculosis in the udders of milch cows was one of great sanitary importance. It was high time, and long past time, that public bodies took steps to remove this risk of infection from human beings. It was, he thought, quite possible to greatly minimise it by a proper system of inspection of dairy cows everywhere. According to a statement recently made by a member of the medical profession regarding the ability of veterinary surgeons to diagnose the disease in its several stages, the professor said he hardly thought the remark a slur at the time it was made, but rather an indication of gross ignorance on the part of the person who made it. He said this as a member of both the medical and veterinary professions. It was almost amusing that a medical gentleman in Edinburgh, who occupied a high position, should give expression in a public meeting to the belief that it was almost incredible that a veterinary surgeon could be able to diagnose every case, or almost every case, in cows. If that was true he was inclined to think it was due to defective veterinary teaching, and that they might look forward to certain improvements being introduced in veterinary teaching. That also was a great exhibition of ignorance. If he had taken time properly to inform himself regarding the differences between bovine and human tubercle, clinically he would have found that it did not require a man of superhuman knowledge to diagnose a large number of such cases. As having had some experience, both in human and also in animal treatment, he demurred altogether to the statement that practitioners of human medicine were necessarily in any way superior in diagnosing cases of Tuberculosis. Medical men met many cases of Tuberculosis which they could not prove by a positive diagnosis, except after having themselves stained the sputum. In veterinary practice they were quite ready to take advantage of the advance of science, and Tuberculosis might be diagnosed by a microscopical examination and study of the discharge when they could get it; but they might have a most advanced form of Tuberculosis, and the animal not discharging any material which contained bacilli. There was a case in the knowledge of the President in which there had been extensive Tuberculosis in the peritoneum. It would have puzzled a medical gentleman to have asked him to diagnose

Tuberculosis in that animal during life. It had neither cough nor expectoration to indicate it. In concluding, Professor McFadyean remarked that he was glad to have had the opportunity of saying what he had said, as a protest against the method of looking at veterinary clinical facts that some of the medical profession had. (Applause.)

Professor Baird, in the course of some remarks on Pleuro-pneumonia, said there were fewer outbreaks of the disease now than in past years, in consequence of the extensive system of slaughtering that went on. Considering the way that calves were now reared—brought forth in January, tied up till the time of the grass in May, insufficiently exercised in joint and lung, all of which was contrary to a state of nature, he was of opinion that it might come on without any infection at all. He had come across isolated cases in which there was no proof of the animals being in contact with others that might produce the disease. So long as cattle were reared as they were and moved about, there would be cases of Pleuro-pneumonia. Byres should be built on the hospital system, with half-a-dozen cows in one place. If one took the disease the rest might be slaughtered, but as things were conducted at present, there was entailed a great loss to the country. Tuberculosis was said to be hereditary, for though the animals appeared to be in perfect health it might be in their system, and the question arose, where were they to be begin to stamp it out? They must just begin where the animals showed the symptoms, but where it was hereditary he did not see how they were to stamp it out.

Mr. Reid, jun., Auchtermuchty, said that at his home they had a case completely isolated and could not determine its cause. When the cattle were slaughtered they got an encysted patch of lung. The cattle were bought six months before the disease made its appearance.

Professor McFadyean, recurring to the subject of heredity, said it was an error to regard it as accounting for Tuberculosis. It had been abundantly proved by extensive statistics covering many thousands of cases of examination of calves, that the existence of Tuberculosis in calves at birth was extremely rare. There were not more than half-a-dozen undoubted instances on record. Many so-called cases were instances in which calves were found to be tuberculosed two months after birth, which was a period quite long enough to permit of infection being communicated from other animals by cohabitation or breathing the contaminated air of affected animals. There might be an increased predisposition, which, of course, might be hereditary.

Professor Walley thought he might mention an occurrence which showed how little people knew about Tuberculosis affecting their cattle. At the residence of a nobleman in Scotland, there were six or seven cows among those which were giving milk for his own private use which exhibited signs of Tuberculosis. This was pointed out by a veterinary surgeon, but it was not till it was brought under the direct notice of the chamberlain that any steps were taken. Immediately every one of the cattle was slaughtered, and they were found to be bad cases. In reference to the communication of Tuberculosis to the human subject from the flesh of animals, he thought sometimes there was a probability of its being so communicated. Even if there was only one solitary case in a whole community, he should look upon that as to a certain extent dangerous. Another element was the lymphatic glands. One never knew when the lymphatic glands were affected. There was on record a case in which Tuberculosis had been produced by inoculation. Regarding Professor Baird's remark as to the probable origin of Pleuro-pneumonia, he would not like it to go forth uncontradicted by him (Professor Walley) that the disease might occur without contact with affected animals. He thought they could hardly entertain that supposition. He was convinced there was always a source of contamination somewhere.

The discussion was then closed.

The CHAIRMAN intimated that a discussion on "Purpura Hæmorrhagica," which was to have been introduced by Mr. Barclay, would, in consequence of that gentleman's inability to be present, be taken up at a future meeting of the Society.

W. D. FAIRBAIRN, *Hon. Sec.*

ROYAL AGRICULTURAL SOCIETY.

AT the Monthly Council, held on February 6th, Sir JOHN THOROLD stated that Professor Brown had presented to the Committee an interesting and valuable report from the Royal Veterinary College, describing in detail the cases of diseased cattle, sheep, and swine admitted to the College during 1888; the inquiries into outbreaks of disease conducted by the officers of the College, and by the Society's provincial veterinary surgeons; and the experimental inquiries conducted during the year into the nature of certain diseases—*e.g.*, Actinomycosis, Tuberculosis, Swine Fever, Anthrax in Swine, and Lung-worm in sheep and calves. It was proposed to publish this report in the next number of the Journal. Professor Brown had also presented the following report :—

"PLEURO-PNEUMONIA.

"This disease has lately been more prevalent in Edinburgh and its vicinity than in any other part of Great Britain. Several of the outbreaks are attributed to cattle sent to an Edinburgh sale-yard in December last by a dealer in Cumberland, on whose farm the disease was afterwards reported. Other outbreaks in Cumberland are probably due to the same cause, and some animals from one of the Cumberland infected farms have been sent into Northumberland. In the first four weeks of the present year there have been thirty-one outbreaks in Great Britain, as compared with forty-four in the corresponding period of 1888. In Ireland there have been only four fresh outbreaks this year, all of them in the North and South Dublin Unions. About this time last year the fresh outbreaks in and around Dublin averaged about five per week.

"ANTHRAX.

"There have been six outbreaks of this disease in England, but none in either Wales or Scotland since the beginning of the year. This is about half the number reported in the corresponding period of last year.

"SWINE-FEVER.

"This disease maintains about the same rate of prevalence as this time last year. There have been 328 fresh outbreaks reported this year, and 2,071 swine attacked. Only 998 of these were killed, 918 died, and 150 recovered. The disease is now more prevalent in Oxfordshire than in any other part of England. The cause of this seems to be the keeping alive of diseased pigs. No less than 192 remained alive at the last date of the last published return."

The Committee recommended the payment of the first moiety of the grant to the Royal Veterinary College for the current year; and that £100 be granted to Professor Brown for further experimental inquiries into Lung-worm, Black-quarter of calves, Tuberculosis in cattle or pigs, and other diseases of farm stock. The question of the fees now payable by members for the examination of viscera for poisons had been considered, and the Committee recommended that such examinations be in future conducted at the Royal Veterinary College, the fees chargeable being reduced as follows:—Examination for metallic poisons, £1 [instead of two guineas]; complete examination for metals and alkaloids, £3 [instead of five guineas]. The Committee recommended that Mr. James Smith, of Huntingdon, be appointed Provincial Veterinary Surgeon for Hunts. A correspondence with the Royal Dublin

Society on the question of the cross-channel traffic in cattle having been read, it had been resolved that the Chairman, Colonel Kingscote, and Mr. Jacob Wilson be deputed to confer with the representatives of the Royal Dublin Society and the Highland Agricultural Society, and if necessary to join them in a deputation to the Privy Council Office. The examiners on the diseases of animals of the farm other than the horse in the examinations for the diploma of the Royal College of Veterinary Surgeons held last year had reported that the following gentlemen had attained the greatest distinction—Mr. T. Dawson, Pontefract, Yorks; and Mr. J. H. Harris, Whitecross Street, Monmouth. The Committee therefore recommended that the Society's medal be given in silver to Mr. Dawson, and in bronze to Mr. Harris. It was recommended that Mr. Darby and Mr. Gorringe be added to the Committee.

Mr. WAKEFIELD asked whether Professor Brown's report included particulars of a recent outbreak of Pleuro-pneumonia in the county of Cumberland. There had been an introduction of the disease into that county, which would involve the slaughter of 350 head of cattle. What was the most recent information on the subject, and was the disease traced to any previous outbreak?

Professor BROWN replied that the latest information was that the disease extended from a particular sale-yard, and the dealer concerned seemed to have taken it into a very considerable number of places. There was no doubt whatever that the Cumberland outbreak was very severe, but most energetic measures were being taken to suppress it.

The Duke of RICHMOND and GORDON suggested that the Council should urge upon the authorities of the Privy Council that the time had now arrived when it would be expedient that the Government should take power to slaughter animals and pay for their cost out of the Imperial funds. (Hear, hear.) If that was taken in hand by the Government, it would not, looking to the very small amount of Pleuro-pneumonia there was throughout the country, be difficult or take a very long time before it could be thoroughly stamped out. If left to the efforts of the local authorities, the disease might not be suppressed for a considerable period. He hoped that Professor Brown would acquaint the Lord President of the Council with what had been said that day, and suggest that it would be a very opportune time for the Government to take the matter into their own hands.

Professor BROWN said that his Grace was fully aware that what he had said agreed with his own (Professor Brown's) views. The representation which it had been suggested he should make he assured the Council he had already made, and he thought he was justified in saying that the whole subject as to the payment of compensation out of the Imperial funds was now before the Cabinet.

Mr. WAKEFIELD pointed out that this was all the more reason why the Society should act at once.

Mr. JACOB WILSON said he understood that the Central Chamber of Agriculture had at their meeting yesterday decided to move upon exactly the lines suggested by the Duke of Richmond.

Mr. WAKEFIELD said that 350 head of cattle were going to be slaughtered at one fell swoop, and the benefits of that slaughter would extend to the rest of the country. He did hope that something would be done in the direction proposed by the Duke of Richmond.

Mr. CHAPLIN thoroughly endorsed what had fallen from the Duke of Richmond and Mr. Wakefield. He thought it was a question whether it would not be desirable for a formal representation to be made from this Council on the subject. No doubt the present was a very favourable opportunity of getting rid of Pleuro-pneumonia once for all for the benefit of the whole community.

Mr. JACOB WILSON thought that such a representation at the present time

would have a very considerable effect upon the Government. What was urged by the Duke was in complete conformity with the recommendations of the Departmental Committee which sat some time ago, and over which he had the honour of presiding, and it was also the opinion of the majority of the witnesses that were examined from all parts of the kingdom.

His Royal Highness the ACTING PRESIDENT asked whether the Council thought it desirable to take any present action, either by joining in a deputation or by resolution. He thought the latter would be an excellent plan if the Duke would make a motion on the subject.

The Duke of RICHMOND said that from his official knowledge and experience at the Council Office he thought the best way would be to pass a resolution, and request His Royal Highness, as Chairman, to forward it to the Lord President of the Council.

The PRINCE of WALES having signified his assent to the course proposed, it was moved by the Duke of RICHMOND, and seconded by Mr. CHAPLIN, M.P. :—

"That the Royal Agricultural Society of England beg leave to call the attention of Her Majesty's Government to the present disastrous outbreak of Pleuro-pneumonia in the county of Cumberland, and to urge that in the opinion of the Council the time has arrived when the slaughtering of animals affected with Pleuro-pneumonia should be undertaken by the Government, and that the cost thereof should be defrayed out of the Imperial funds.

"They believe that the present moment is peculiarly favourable for the prosecution of this object, and that it may probably be now attained with the smallest sacrifice and the least expense.

"They are of opinion that if this is done a disease so injurious, not only to the producer, but to the consumer, will be stamped out. They consider that the expense of so great a benefit to the whole community should not be borne by the locality."

A discussion arose as to the desirableness of specially alluding in the resolution to the outbreak in Cumberland.

Mr. DENT expressed a doubt as to whether there was any special importance in the word Cumberland, remarking that the facts were that the disease was reduced within a very small compass, and that it was desirable the central anthorities should take the matter in hand.

Sir MASSEY LOPES concurred in this view.

Mr. JACOB WILSON thought there *was* an element of importance in the word Cumberland, as showing the insidious nature of the disease, the county being under conditions in which they thought themselves safe.

Professor BROWN said that the object in retaining the reference to Cumberland was that that county was very strictly administered. They habitually kept free from the disease, and the fact of these extensive outbreaks there showed that no county, however strict, was safe under the present system. The all acted quite independently of each other, and it was therefore impossible to provide against these contingencies unless by a central authority.

Mr. WAKEFIELD was in favour of the name of the county being retained.

The Duke of RICHMOND said he knew from his own experience at the Council Office that no county in Great Britain took more care than the county of Cumberland to prevent the introduction of disease, under the energetic administration of Mr. Dunn, the Chief Constable of the county.

His Royal Highness the PRINCE of WALES thought that in the interest of stock-owners the case should be represented to the Privy Council as forcibly as possible.

Eventually the resolution was carried unanimously in its original form, and a copy of it was at once forwarded by his Royal Highness the Acting President to Lord Cranbrook.

Army Veterinary Department.

Gazette, February 5th.

The under-mentioned Veterinary Surgeons on probation to be Veterinary Surgeons, ranking as Lieutenants. Dated 18th July, 1888:—

Francis B. Drage.
John H. Jackson.

We chronicle the following item of news from Suakim, under date of February 7th, relative to Lieutenant Beech, 21st Hussars, now attached to the Egyptian Cavalry, and formerly in the Army Veterinary Department:—

"A hand-to-hand encounter occurred to-day between Lieutenant Beech and two Dervishes. The Lieutenant was ahead of the usual patrol when he was attacked by two of the enemy, armed with swords and spears. He killed one, but was nearly being overpowered by the other, when an Egyptian soldier came to his rescue, and shot the Dervish dead. The two camels and the arms belonging to the Dervishes were brought into Suakim."

A later telegram says:—"As inaccurate versions of Lieutenant Beech's encounter with the Dervishes have been in circulation, I think it right to send the correct one. On Thursday, when Mr. Beech was out with the Egyptian Cavalry Patrol, he came across two Dervishes at a moment when he was separated by a considerable distance from the Cavalry. Not expecting any resistance, he offered the men quarter, but they suddenly attacked him. In the struggle which followed, he killed one with his sword and wounded the other with his revolver. At this moment an Egyptian came to his assistance and gave the second man his *coup de grâce*."

We intimated in the Journal for January last, that certain alterations of an important character had been made in the regulations for this branch of the Service, and the following extracts are taken from the Regulations for the Veterinary Department as amended by Army Order 113 of 1889:—

Candidates for Admission.

1. Candidates for admission must make application to the Principal Veterinary Surgeon of the Army, Horse Guards, War Office, London.

2. The minimum age of Candidates is 21 years, and the maximum age 26 years, except in special cases or on urgent occasions, when the latter limit may be exceeded. Candidates must be unmarried.

3. Every Candidate must be a Member of the Royal College of Veterinary Surgeons.

4. He will be required to forward the following certificates, prior to examination, to the Principal Veterinary Surgeon, War Office:—

(*a.*) A certificate of birth or baptism, or other satisfactory proof of age.

(*b.*) Certificates of moral character from clergymen or others in a position to testify, and whose evidence may be deemed satisfactory; also from the Principal and Professors of the College at which the Candidate has been professionally educated.

5. Every candidate will undergo a medical examination, in order to ascertain his state of health and physical fitness.

6. The professional examination will be in two parts, written and practical. The written examination will embrace the following subjects:—

(*a.*) Anatomy. (*b.*) Physiology. (*c.*) Histology. (*d.*) Pathology, horse. (*e.*) Pathology, cattle. (*f.*) Surgery. (*g.*) Chemistry. (*h.*) Materia Medica. (*i.*) Toxicology. (*j.*) Botany. (*k.*) Sanitation. (*l.*) Dietetics. (*m.*) Principles of shoeing.

The practical examination will be conducted by a Board of Veterinary Officers, and will include—

(*a.*) Examination of horses as to soundness. (*b.*) Examination of horses as to age. (*c.*) Exterior of the horse, with regard to points, marks, seat of disease, conformation necessary for different kinds of military service, etc. (*d.*) Operations. (*e.*) Prescribing, compounding, and administering medicines.

EXAMINATION FOR PROMOTION TO THE GRADE OF VETERINARY SURGEON (1ST CLASS).

The examination for promotion to the grade of Veterinary Surgeon (1st Class) will be a written one, and will include the subjects in the examination for admission to the department, with the addition in Subject *d* (cattle pathology) of the diseases peculiar to the camel and elephant, in Subject *k* of sanitation in India, and in Subject *l* of dietetics in that country.

EXAMINATION FOR PROMOTION TO THE GRADE OF INSPECTING VETERINARY SURGEON.

The examination for promotion to the grade of Inspecting Veterinary Surgeon will be a written one, and be based chiefly on subjects connected with veterinary administrative duties (as laid down in the Army Veterinary Regulations) at home and in India, and also with regard to administrative duties in the field.

The following extracts are taken from the Royal Warrant relating to Pay, etc., 1887, as amended by Army Order 473 of 1888:—

The pay of the Officers of Our Veterinary Department shall be at the following rates:—

Principal Veterinary Surgeon, £850 a-year, inclusive of all allowances.

	Daily. £	s.	d.
Inspecting Veterinary Surgeon	1	5	0
After 25 years' service	1	7	0
„ 30 „	1	10	0
Veterinary Surgeon of the 1st Class	0	16	0
If promoted to that rank after the 31st May, 1888 ..	0	15	6
After 5 years' service in the class	0	18	0
If promoted to that rank after 31st May, 1888 ..	0	17	6
After 10 years' service in the class	1	0	0
„ 15 „ „ „	1	2	0
„ 30 years' total service	1	4	0
Veterinary Surgeon on appointment, £250 a-year.			

* * * * * * * * *

The pay of Officers of Our Departments shall be issued monthly in arrear.

An Officer of a department of Our Army not having honorary rank shall rank as follows for purposes of precedence and other advantages attaching to corresponding military rank; but this shall not (* * *) entitle him to military command of any kind, to the Presidency of Courts-Martial, Courts of Enquiry, Committees, or Boards of Survey, or to precedence in his own department over Officers holding a superior departmental rank:—

* * * * * * * * *

As Colonel—

* * * * * * * * *

Principal Veterinary Surgeon.

As Lieutenant-Colonel—

* * * * * * * * *

Inspecting Veterinary Surgeon acting as Principal Veterinary Surgeon in India.

Inspecting Veterinary Surgeon.

As Major—

* * * * * * * * *

Veterinary Surgeon, 1st Class, after 10 years' service as such, or under 10 years' service if allowed to rank as Major, under Article 417, for distinguished service in the field.

As Captain—

* * * * * * * * *

Veterinary Surgeon, 1st Class, under 10 years' service as such, except as provided in Article 417.

As Lieutenant—

* * * * * * * * *

Veterinary Surgeon.

A Candidate for Our Veterinary Department shall be required to possess the diploma of the Royal College of Veterinary Surgeons, and to pass an examination before a Board of Military Veterinary Surgeons; also to fulfil such further conditions as may be prescribed from time to time by Our Secretary of State.

A Candidate who has proved after examination that he possesses a competent knowledge of the required subjects, shall be appointed a Veterinary Surgeon on probation for a period of six months, at the expiration of which period, if his probationary service has been satisfactory, he shall, on the recommendation of the Principal Veterinary Surgeon, and with the approval of Our Commander-in-Chief, receive a commission as Veterinary Surgeon for a limited period of 10 years, and the commission shall be antedated so as to embrace the period which the Veterinary Surgeon has passed on probation. If his probationary service has not been satisfactory, his services shall be dispensed with, and he shall have no further claim on the department.

The services of a Veterinary Surgeon, *appointed after the 22nd April*, 1878, may be dispensed with on the completion of 10 years' service, and he shall in such case be granted a gratuity under Article 1075.

A Veterinary Surgeon *appointed after the 22nd April*, 1878, who, after having served less than 10 years, is disqualified for duty by ill-health, certified by the regulated medical authority* to have been caused by the Service, may, at the discretion of Our Secretary of State, be granted half-pay, at the rates specified in Article 1048, for a period not exceeding six months at one time.

In special cases, in which the circumstances may appear to Our Secretary of State to call for exceptional consideration, such half-pay may be granted when the disability, though not caused by the Service, has been contracted in the Service.

At the expiration of the period of six months, referred to in Article 403, if the Veterinary Surgeon be able to resume his duties, he shall be entitled to complete his term of 10 years' service. If he be unable to resume duty, as

* As defined in Article 1210.

certified by the regulated medical authority, he shall, if he have served five years on full pay, be retired with a gratuity under Article 1075. If he have not served five years on full pay, he shall be allowed to remain upon the Half-pay List for a further period of six months, without half-pay; at the expiration of which period, if still unable to resume duty, his services shall be at once dispensed with, and he shall have no further claim on the department.

If a Veterinary Surgeon, *appointed after 22nd April*, 1878, be unable to complete his 10 years' service from any cause other than the reduction of establishment or ill-health, as specified in Article 403, he shall be allowed not more than six months' leave without pay, at the expiration of which period, if unable to resume duty, his services shall be at once dispensed with, and he shall have no further claim on the department.

It shall be competent for Our Commander-in-Chief, on the recommendation of the Principal Veterinary Surgeon, to select every year, with the approval of Our Secretary of State, a number of Veterinary Surgeons who shall be retained in the Service.

A Veterinary Surgeon shall be promoted to the rank of 1st Class Veterinary Surgeon on completing 10 years' commissioned service, including at least three years abroad, provided he be recommended for promotion by the Principal Veterinary Surgeon.

A 1st Class Veterinary Surgeon shall not be eligible for promotion to the rank of Inspecting Veterinary Surgeon until he completes 15 years' commissioned service.

All promotion from the rank of Veterinary Surgeon to that of 1st Class Veterinary Surgeon, and from the latter rank to that of Inspecting Veterinary Surgeon, shall be given for ability and merit upon the selection of Our Commander-in-Chief, with the approval of Our Secretary of State, and the grounds of such selection shall be stated to Us in writing and recorded in the department. In all such cases the amount of service abroad shall be expressly stated.

Officers of Our Veterinary Department shall be entitled to retire after 20 years' service.

Veterinary Surgeons, *appointed after the 22nd April*, 1878, may be permitted to retire on the completion of 10 years' service, with a gratuity under Article 1075, in cases in which such retirement may be deemed expedient by Our Secretary of State.

Officers of Our Veterinary Department, other than the Principal Veterinary Surgeon, shall retire on the retired pay laid down in Article 1075, on attaining the age of 55.

Rates of Half-pay.

	£	s.	d.
Inspecting Veterinary Surgeon—			
After 20 years' service	0	17	6
" 25 " "	0	19	0
" 30 " "	1	1	0
Veterinary Surgeon, 1st Class—			
After 15 years' service	0	10	6
" 20 " "	0	13	0
" 25 " "	0	16	0
Veterinary Surgeon—			
Under 5 years' service	0	4	0
After 5 " "	0	7	0
" 10 " "	0	8	6
" 15 " "	0	9	6

VETERINARY DEPARTMENT.

Retired Pay.

	(1.) If retiring voluntarily. After 20 years' service on full pay.	(2.) If retiring voluntarily. After 25 years' service on full pay.	(3.) If retired under Art. 409, or on account of age, or from disability contracted in and by the Service.
Principa Veterinary Surgeon	Daily. ...	Daily. ...	Yearly 500*l.*
			Daily. £ s. d.
Inspecting Veterinary Surgeon—			
After 20 years' service	Not exceeding one-half the rate of full pay received at the time of retirement.	Not exceeding seven-tenths of the rate of full pay received at the time of retirement.	0 17 6
„ 25 „ „			0 19 0
„ 30 „ „			1 1 0
Veterinary Surgeon, 1st Class—			
After 15 years' service			0 10 6
„ 20 „ „			0 13 0
„ 25 „ „			0 16 0
Veterinary Surgeon—			
Under 5 years' service			0 4 0
After 5 „ „			0 7 0
„ 10 „ „			0 8 6
„ 15 „ „			0 9 6

GRATUITY.	£
If retired under Article 406*a* or 407	800
If retired under Article 404—	
After 5 years' service	400
„ 6 „ „	480
„ 7 „ „	560
„ 8 „ „	640
„ 9 „ „	720

An Officer shall not be entitled to the rate of retired pay fixed for his rank, under Article 1075, column 2, unless he shall have served three years in his rank, or 10 years abroad in all ranks, or five years with an army in the field. Failing one of these conditions, the Officer shall only be granted, on voluntary retirement after the services specified, retired pay at a rate not exceeding seven-tenths of the rate of full pay received by him before his last promotion.

Obituary.

THE deaths have been notified of Mr. W. B. Barrow, M.R.C.V.S., Newmarket, who graduated in 1868; and of Mr. H. J. James, M.R.C.V.S., Oxford, a graduate of 1842.

Professor Domenico Vallada, formerly director of the Veterinary Schools of Naples and Turin, died recently, aged seventy-six years. Among other works, he

was the author of one on Veterinary Jurisprudence, and a treatise on Sanitary Police.

The death of Professor Armbrecht, M.D., late of the Vienna Veterinary School, is also reported. His age was seventy-one years. He was the author of a work on Veterinary Surgery, was distinguished as an operator, and was also a good judge of horses and an able "exteriorist."

Notes and News.

ENGLISH AND FOREIGN HORSES.—There is a very great difference between the value of the horses we import and those exported from this country. The average value of the former for 1888 was only £16 14s. 10d., while that of the latter was £65 17s. 8d.—a price more than £7 a head above the average of horses exported in 1887. Canada received the greatest number of the horses we sent away, Belgium coming next, and Holland, the United States, and France following in the order here given. Canada gave the highest prices, the average being nearly £80 per horse, and Belgium the lowest, or about £40. French purchases averaged about £75, and American £56.

PASTEURISM IN AUSTRALIA.—The representatives of M. Pasteur in Australia were recently applied to by a number of flock-masters in New South Wales to vaccinate their sheep as a preventive of Anthrax, experiments, carried out in the colony having proved successful. M. Pasteur was cabled to for his permission, and his reply was to the effect that his representatives could vaccinate 100,000 or 200,000 sheep after they had finished the experiments with rabbits agreed upon by the Colonial Government, which they are at present engaged in carrying out.

THE PREVENTION OF RABIES BY PASTEURIAN INOCULATION.—The inoculations performed last year at the Odessa Bacteriological Station against bites from rabid animals show results no less satisfactory than those of the preceding year. The number of persons inoculated was 454; of these, 398 were bitten by rabid dogs, thirty-eight by cats, seven by wolves, three by a man suffering from Hydrophobia, one by a rabid cow, and another by a wild boar. Six persons underwent inoculation simply as a preventive measure. The patients actually bitten by rabid animals may be divided into three classes. First are the dangerously wounded—that is, persons bitten on the head, face, or arms; of these there were eighty-nine. Of the second class—the slightly wounded—there were 206; and in the third category, of those who had received bites through their clothing, there were 158. In only forty-four out of the total 454 cases treated was the actual presence of rabies in the animals inflicting the bites not conclusively proved. Two patients died after the inoculatory course prescribed, but both these cases belonged to the dangerously wounded class, one of these patients being dreadfully lacerated about the head by a rabid wolf. Altogether six patients died during and after the inoculations. Of seven persons bitten by the same rabid wolf, one succumbed. Of forty-four persons bitten by other rabid animals, five died, giving a percentage of 1.1; of these, four were dangerous cases. In the 158 who were bitten through the clothes there was no fatal case.

HYDROPHOBIA FROM THE BITE OF A CAT.—Rabies has been prevalent for some time in Ireland, and quite recently a little girl died in the Royal Hospital, Belfast, from the bite of a cat, inflicted six weeks previously.

BERLIN VETERINARY UNIVERSITY.—Professor Dr. Schütz has been appointed Rector of this University from January 2nd of this year to the same date in 1892.

FRENCH VETERINARY SCHOOLS.—The law of December 29, 1888, fixes in the following manner the sums to be disbursed by the Minister of Agriculture with regard to veterinary instruction and the suppression of epizoötics.

Personnel of the Veterinary Schools	£17,312
Material of the Veterinary Schools	22,620
Epizoötic Service	6,312
Compensation for slaughtered animals	15,000

INOCULATION FOR ANTHRAX.—The Italian Minister of Agriculture, having been impressed with the good results obtained from Pasteur's system of protective inoculation for Anthrax, recently tried in the Province of Sassari, has granted the sum of 300 lire to the Turin Veterinary School, in order to continue the inoculations where and when necessary.

VETERINARY HONOURS.—Dr. Wehenkel, director of the Brussels Veterinary School, has been elected Vice-President of the Belgium Academy of Medicine. Dr. Bollinger, director of the Munich Veterinary School, has received the title of Superior Medical Councillor of the German Empire. Professor Dieckerhoff, Berlin Veterinary School, has had conferred upon him the title of Doctor of Medicine, *honoris causâ*, by the Medical Faculty of Greifswald University.

SUDATION IN THE DOG.—At a recent meeting of the Central Veterinary Society of Paris, M. Barbey reported the case of a small, very nervous Havanna dog which, as the result of violent fear, perspired very abundantly for about half an hour.

PROTECTIVE INOCULATION AGAINST HYDROPHOBIA.—During last September 121 persons were treated for Rabies at the Pasteur Institute, Paris. Of this number 16 were bitten by animals in which the existence of Rabies was experimentally proved, 75 were bitten by animals in which the affection was proved by veterinary examination, 30 were bitten by animals which were supposed to be attacked by Rabies. In the following case the patient, a man of sixty-five, succumbed after the treatment. He was bitten by a dog on September 12th above the right eyebrow; a piece of the skin, measuring 1 centimètre by 4 centimètres, was torn off. Two other bites were inflicted on the forehead, a scatch on the left forearm, and one on the right leg. The patient was treated from September 12th to October 3rd. On October 6th he complained of pain in the cicatrix on the eyebrow, and headache. On the 8th there was formication, especially in the right portion of the skin of the cranium and face. The patient could not sleep, and complained of pains in the limbs. On the 10th slight Hydrophobia and Aërophobia appeared, and increased in intensity until the 11th. The patient was greatly excited. He expired on October 11th at the Hôpital Broussais. The rabic symptoms appeared three days after the treatment was suspended. Inoculations were made with the medulla oblongata of the dog which had inflicted the bites these inoculations, introduced into the eye, determined Rabies in twelve animals.

Correspondence.

HYBRID BETWEEN THE OX AND BISON.

SIR,—Will you please permit me to draw attention to two errors in the publication of my article about the hybrid between American bison and domestic cattle, which appeared in your journal for this month?

1. The extract which I gave from *Forest and Stream* has been inserted in "Notes and News," under the head of "Buffalo Breeding," without stating its source.

2. My own observations upon the subject, on page 98, have been furnished by the printer with quotation marks, as if they were the extract itself.

In *Forest and Stream* of December 20th, 1888, there is an article headed "Buffalo Domestication," from which the following statements are particularly worth the attention of agriculturists:—

"Viewed from the commercial standpoint there seems little doubt as to the success of this experiment. No fur has yet been found which offers such protection against cold as the buffalo robe, and the robe of the cross-bred stock is better than that of the pure-bred buffalo. It seems altogether probable that by judicious inter-breeding, a new race, larger, stronger, and far heavier than anything now known, will be produced. In the half-bred stock the hump almost disappears, as will be seen in the illustration. The hardiness is undoubted, the beef is seemingly equal to the best from domestic stock, and the milk fair in quantity, and very rich. The fact that the cross-bred stock are fertile among themselves, and with the parent stock on either side, is by far the most important point connected with these experiments. * * * The buffalo cow is seldom or never impregnated by the domestic bull, while the domestic cow breeds readily to the male buffalo. For many years a popular impression has existed that the domestic cow cannot give birth to a calf by a buffalo bull, on account of the hump or the great size of the shoulders. As a matter of fact, the buffalo calf has, at birth, no hump at all. The half-bred calf is a large animal, and small domestic cows may have difficulty in parturition, but with large loose-hipped cows there is no difficulty."

Any one wishing to experiment in breeding the hybrids should procure the *Forest and Stream* numbers for November 29th and December the 20th. In the latter are illustrations taken from photographs of the domesticated bison and the cross-breds. There can be no doubt that such animals would be of great value for draught purposes.

J. J. MEYRICK.

Dublin, 20th February, 1889.

CARDIAC CLOTS.

SIR,—In looking over your valuable periodical for January last my attention was called to the very interesting subject of "Tumours in the Ventricles of the Heart."

On carefully reading the communication, I was rather surprised to find that the description of the so-called tumours showed them to be nothing more than blood-clots. These, of course, may be found in many *post-mortem* examinations. The cause of this appearance of the clot is the whipping up of the products that go to form the fibrine, by the last fluttering beats of the heart; and the colour, together with the consistency, indicate that the clot is partially formed before death; the black portion of the clot is formed after death.

Could the writer have supposed that tumours so large as described would have existed in so important an organ as the heart, and the animals live for a sufficient length of time to produce the peculiar symptoms of that case? or how could such symptoms, *e.g.*, temperature 105°, be produced by any tumour formation in the heart? The fact of the horse being sick, as indicated by the high temperature, and dying slowly, would tend to produce the clots in the heart which might give rise to Dyspnœa, and the symptoms, tossing of the head, etc.

I hope you will pardon me for attempting to correct that which I thought might possibly tend to mislead students.

Ontario Veterinary College, *Feb. 9th.* H. H. JENKINS.

HIPPACEA.

SIR,—I apologise for having again to trouble you on the above subject. I should have treated Mr. Bowden's reply to my letter with silent contempt, had he not challenged me to prove a statement I made in your Journal for December.

Allow me again to state most emphatically that Mr. H. Warrior, Northallerton, is the chemist who has "Hippacea" and other nostrums prepared by "Henry's Great Indian Remedy Company" in stock, on sale or return.

Mr. Bowden accuses me of taking the opportunity to insert a gratuitous advertisement. In answer to such an absurd, childish remark, I am happy to inform him that advertising with me has long ceased to be necessary. Not so with Hippacea; it will need all the "managing director's" "tactics" to make it "go," even with the bait he so temptingly offers at the end of his letter.

No doubt he is endeavouring by giving it away to fulfil Mr. Pallin's wish that a tin may be found in every veterinary pharmacy.

Northallerton, *February 15th*, 1889. JOHN NETTELTON.

A CORRECTION.

SIR,—Would you kindly give me space in your next number to correct a statement which appears in the paper on "Machine-made Horse-shoes and Nails," etc., read by me at the last meeting of the Veterinary Medical Association of Ireland, and which I see appears in the report of the meeting in the February VETERINARY JOURNAL? The sentence I allude to reads as follows: "But when it is known that a set of ordinary-sized shoes costs considerably under a shilling, the saving of expense can be better understood." It would have been more correct to have said that the cost of the shoes varies from a shilling a set, any increase on that price depending on the size and pattern of the shoes required. B. L. GLOVER, A.V.D.

ARE WE FAIRLY REPRESENTED IN COUNCIL?

DEAR SIR,—The answer to the above question by the profession generally would be, No; it is one-sided. A few of our representatives no doubt study the interests of the hard-worked practitioner, but when we find about one-fourth of the Council composed of professors, together with eight or nine examiners, it looks too much like a clique. One thing, however, is certain, that increased College fees, with the present lax system of examination, will be of no benefit to the practitioner, but only those in connection with the teaching institutions.

Not many years ago, before the examinations were rearranged, it was not an uncommon thing for a veterinary surgeon to get a hundred guineas premium with an out-door pupil, but now practitioners have either to dispense their own medicines or take a pupil without a premium. We don't want men in Council who make a special study as to which is the easiest way to pass a student through the College. I am afraid there are too many practitioners in this country already. Neither do we want to recognise anything in the form of a veterinary college abroad, without strict investigation as to the class of men it turns out, or in any way retard our progress and lower us in the eyes of the public.

Some fresh blood infused into the Council-chamber would be beneficial;

we want men to represent us who know the wants of a hard-worked profession, who can form a conscientious opinion, and hold their own without fear or favour. J. C.

NOSTRUMS.

DEAR SIR,—With reference to the offer made by the managing director of the Great Indian Remedy Company, it is to be hoped that no veterinary surgeon will accept it. Should any one, however, feel curious as to the peculiar admixture and accept a free sample, I should recommend them to try its lubricating properties on some cart wheels, and not apply it to the skin of any living animal. But for whatever use it may be put to, no veterinary surgeon who has the welfare of the profession or that of his brother practitioners at heart will think of giving a stimulus to the sale of another of the already too numerous quack remedies. Another matter, which has not probably come under the notice of some veterinary surgeons, is the indiscriminate way in which wholesale druggists issue their price-lists and formulæ. It is not an uncommon thing to find a stud-groom or horse-keeper in possession of one. I will give an instance of how I was deprived of a client. My services were requested to attend a valuable brougham horse which was suffering from superpurgation, the result of its having had two physic-balls given, one not having the desired effect. The groom informed me that the balls, together with some mixtures and applications, were obtained from a firm of wholesale druggists. He also gave me to understand that his mistress had given him instructions not to order any more stock medicines from me, as she could obtain them very much cheaper at the veterinary stores. Should the other remedies correspond in quality with the physic-balls, and the groom be allowed to use his own judgment, it will no doubt be another glaring instance of penny wise and pound foolish. VERITAS.

THE NATIONAL VETERINARY ASSOCIATION.

SIR,—The communication from the pen of the Honorary General Secretary of the above Association, which appears in the VETERINARY JOURNAL for February, is so over-full of flagrant misrepresentation that, though very unwilling to trouble you at all with reference thereto, I am advised by several professional brethren that I ought not to allow the matter to pass unheeded, which most certainly it was my intention to have done. I shall not refer to more than four or five points of the Honorary General Secretary's long-winded communication, which will be quite sufficient to exemplify to what depths of degradation this gentleman descends in order that he may try to show what an exemplary officer he has been and still is; for be it known by all whom it may concern, that this gentleman considers himself so essential to the bare existence of this Association, that he stated to another member of the profession that rather than it should exist without him as the Honorary General Secretary, "he would smash the whole thing up." Perhaps Mr. Banham will deny having made such a statement, but fortunately the same can be confirmed and established.

In the first place, let me state that Mr. Banham, with characteristic effrontery, intruded himself upon this correspondence as though he, and he alone, were the person who could reply to my inquiry in the *Veterinary Record* of October 27th last; and instead of furnishing the information I asked for, when he did address a letter to the *Record* of November 3rd he merely sought to gratify his vanity by arrogating to himself the right to question me thereupon, and in a presumptuous and dictatorial tone—as any one who desires can see for themselves—patronisingly offered to

answer me, provided I would bow down and worship him. At the time I wondered what it all meant; I now can understand, as it is evident Mr. Banham was drawing upon his own imagination with regard to my receiving information from Mr. James Simpson.

This brings me to the next important point. Mr. Banham gives it as his opinion "that Mr. James Simpson not only gave the information he publishes in the *Veterinary Record* of December 8th, but also every particle of information which Mr. Hurndall has published in reference to this matter, and as a matter of fact, no other source of information was open to him." Now, sir, I may state for your information that Mr. James Simpson and I had no communication of any sort or description, either verbal or written, on this subject until November, and therefore the correspondence in the *Record* proves that Mr. Banham's assumptions were and are entirely erroneous. I am not going to satisfy Mr. Banham's curiosity in the matter. Mr. Simpson has already informed him in a courteous manner how much I am indebted to him for what I know of Mr. Banham's official shortcomings; but neither on this nor on any other point will I hold communication with Mr. Banham until he retracts the charge of untruthfulness he brought against me in the columns of the *Record*. If gentlemen cannot conduct a public discussion without hurling epithets of this sort at one another, it is time to discontinue writing in the public press. Such delinquencies as this call for and would receive an ample apology from any one possessed of a well-balanced mind, but this I do not look for from one of such a querulous turn of mind as the Hon. Gen. Sec. of the N.V.A.

To show how regardless of exactitude Mr. Banham is, I must remind you that he states "Mr. Hurndall asks, in the *Veterinary Record* of October 27th, how it happened that he was not elected on the Provisional Committee." I defy Mr. Banham to find that I asked any such question; for the question neither exists on paper nor did it ever enter my mind!

But I learned from Mr. Simpson on Nov. 13th that I was among the thirty elected at the meeting of the 14th September last, and also that of the six whose names were afterwards unconstitutionally and illegally erased, I was the only one who was a member of the N.V.A. Now, why had not Mr. Banham the candour and straightforwardness to tell your readers and yourself that fact? No! he apes at a "generous explanation," but his generosity did not extend so far. Why? Because it would have been an acknowledgment of his own official deficiency; he would in this have owned to a mistake, which would have demanded a far larger amount of moral courage than he is possessed of. I am told, and I believe it, that if the meeting which elected the Provisional Committee was a constitutional one, then I am still a member of that committee; for no one, not even Mr. Banham, I conclude, would venture to affirm that the system of erasing names adopted on this occasion was a valid proceeding, and such as would hold water. I, however, neither desire nor intend to investigate the position further; it is quite enough for me to learn that my name was erased; I care not what means were adopted to ensure it.

The main object of my primary inquiry is now fully attained. I suspected irregularity in the conduct of the business arrangements of the N.V.A., and I asked for information through the columns of the *Record*. That information has come to me from several sources: such as I received from Mr. Simpson the readers of the *Record* can also enjoy, and I conclude that all who take the trouble to read will arrive at the same opinion that I have, viz., that my suspicions were not without good foundation, and it now remains for members of the Association to consider whether they are satisfied.

J. SUTCLIFFE HURNDALL.

Blackheath, *Feb.*, 1889.

DEAR SIR,—Your readers will, I feel sure, rather commend than blame me if I treat Mr. Banham's vulgar personal abuse with the contempt it deserves. I have no intention of following his example. If Mr. Banham would avoid resorting to abuse when he finds himself beaten in an argument, and at the same time avoid the dangerous practice of making statements in which there is absolutely *no* truth, one might not object to correspond with him. I have no intention of traversing all the misleading statements made by Mr. Banham.

My case is this: "That the rules of the National Veterinary Association have not been observed, and that the privileges of the Association have been abused."

As to the non-observance of the rules, I adhere to my statement, and I am indebted to Mr. Banham for proving this part of my case to my entire satisfaction. Firstly, we have his statement that "no rule has been *infringed*;" then in another part of his letter appears this self-convicting admission: "He is not aware that any rule has ever been violated to any considerable extent." Now, to the mind of any business man this is too shocking; surely a rule is either observed or it is disregarded!

Mr. Banham's admission, however, renders it unnecessary that I should refer in detail to the particular rules which have been violated.

Now, as to the "abuses of the privileges of the Association:" I have before me the official circular of the National Veterinary Association, issued by Mr. Banham (the Hon. General Secretary), concerning the Newcastle meeting, and on it I find—1. Details of the business to be dealt with. 2. A personal appeal to the members for their photographs. 3. This following very extraordinary appeal:—

"If they (the members of the Association) consider their General Secretary worthy of a seat on the Council (of the Royal College of Veterinary Surgeons) he will thank them if they will accede a favour to him by voting for him."

Now, sir, *nine* of the candidates for Council honours last year were members of the National Veterinary Association, of which Mr. Banham is secretary. He thought it no "abuse of his official position" to voluntarily thrust his name before the profession as early as January, 1888, on the official circular of the Association.

Again, is it not "abuse of the privileges" for an Hon. Secretary to send leaflets with the official papers of an association, when a vacancy occurs in his farrier's shop? The members of the National Veterinary Association will remember perfectly well the leaflet to which I refer, to the effect that "Mr. Banham is in want of a farrier at twenty-five shillings per week, and would be obliged," etc.

The National Association was never intended to be a servants' registry medium, and no ordinary member of the Association would think of using it as such.

Mr. Banham says if all these irregularities take place, "it is somewhat remarkable that he has never heard of them." Why, sir, the improper use made of the official circulars of the Association was the subject of common talk, and was brought to Mr. Banham's notice, to my knowledge; added to which, he can hardly have forgotten that the system was condemned in open meeting at Newcastle, in the presence of Mr. Banham, by a gentleman from Scotland. Members, however, will observe that no mention is made of this little fact in the official report of the Association. I am sure Mr. Banham is heartily sincere in his wish "that the members of the profession will take no notice of Mr. Simpson's fault-finding;" but as the bulk of the members of the profession are "observers of law and order," his appeal is a hopeless one.

Again, his effort to create an unfriendly feeling between the twenty-three gentlemen on the Provisional Committee and myself has proved abortive; nearly all are my personal friends. I voted for the election of each and all, and with nearly all I have had the pleasure of acting for years past.

Now for the destruction of Mr. Banham's imaginary "trump card." On the assumption that I gave Mr. Hurndall certain information before October 27th, Mr. Banham feels himself justified in accusing me of every kind of dishonourable conduct. The following is *the fact*, documentary evidence of which I possess.

Neither directly nor indirectly did Mr. Hurndall receive from me one word of information upon this subject until after three or four letters (between Messrs. Banham and Hurndall) had appeared in the *Veterinary Record*. I repeat that I watched in vain for some generous explanation to Mr. Hurndall; none was vouchsafed. I then gave Mr. Hurndall all the information he was entitled to receive as an elected member of the Provisional Committee. By doing this I supplied an omission of the Hon. Secretary's.

Mr. Banham has only this week received a very wholesome correction at the Eastern Counties Association meeting, which he will do well to lay to heart. He suggests that I am fond of litigation. I can only say that this is about as true as Mr. Banham's other statements, but if he will continue to write and speak of me as he has done he will have ample opportunity given him of forming a correct judgment upon this question.

I thank you for affording me so much space, and assure your readers that it is not my intention to write again upon this subject, whatever Mr. Banham may decide to do.

JAS. F. SIMPSON.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from F. Raymond, A.V.D., Woolwich; Dr. F. Boschetti, Turin; Fitzpatrick Eassie, London; J. A. Nunn, A.V.D., Bombay; R. W. Burke, A.V.D., Jubbulpore; Messrs. Arnold and Sons, London; J. Ferguson, Glasgow; "Veritas;" "J. C.;" T. Flintoff, A.V.D., Dublin; B. L. Glover, A.V.D., Dublin; H. Gray, Stratford; J. Moore, Manchester; A. Leather, Liverpool; J. Nettleton, Northallerton; A. Hill, London; J. Sutcliffe Hundall, Blackheath; J. F. Simpson, Maidenhead; W. S. Adams, A.V.D., Oosoor; F. Smith, A.V.D., Aldershot; W. F. Greenhalgh, Leeds; W. A. Clifford, Staplecross, Sussex; R. Rutherford, Edinburgh; H. H. Jenkins, Ontario; S. Villar, Harrow; J. J. Meyrick, A.V.D., Dublin; Lt.-General Sir F. Fitzwygram, Havant.

BOOKS AND PAMPHLETS: *Drs. Boschetti and Bassi*, Fleming's Trattato di Ostetrica Veterinaria; *Dr. Long*, Die Trichine; *Capt. M. H. Hayes*, Illustrated Horse-breaking; *O. Bosio*, Trattato di Farmacologia Veterinaria o Materia Medica; Bulletin et Mémoires de la Société Centrale de Méd. Vétérinaire; *E. Lavalard*, Le Cheval dans les Rapports avec l'Economie Rurale, etc.; Bulletin des Séances de la Société Nationale d'Agriculture.

JOURNALS, ETC.: *Oesterreichische Zeitschrift für Wissentschaftliche Veterinärikunde; Der Hufschmied; Journal of Dosimetric Therapeutics; Shooting Times; Revue Vétérinaire; Lancet; Recueil de Méd. Vétérinaire; British Medical Journal; American Live Stock Journal; Edinburgh Medical Journal; Annales de Méd. Vétérinaire; Medical Press and Circular; La Clinica Veterinaria; Wochenschrift für Theirheilkunde und Viehzucht; Live Stock Journal; Mark Lane Express; London Medical Record; Bell's Weekly Messenger; Journal of Dosimetric Medicine; Procès-Verbal de la Academie Royale de Médecine de Belgique.*

NEWSPAPERS: *Scotsman; Sheldrake's Military Gazette; Irish Times; York Herald; Leeds Mercury; East Anglian Daily Times.*